

9th ENTRE 2018 | 5th AIB-CEE 2018 Conference Proceedings

International Entrepreneurship as the Bridge between International Economics and International Business

edited by
Krzysztof Wach
Marek Maciejewski



CRACOW UNIVERSITY OF ECONOMICS
Faculty of Economics and International Relations
Centre for Strategic and International Entrepreneurship



International Entrepreneurship as the Bridge between International Economics and International Business

**Conference Proceedings
of the 9th ENTRE | 5th AIB-CEE Conference
organized in Kraków on September 12-14, 2018**

edited by
Krzysztof Wach and Marek Maciejewski

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Joseph F. Hair, Jr. University of South Alabama, USA

Joe F. Hair, Jr. is Professor of Marketing, DBA Director and the Cleverdon Chair of Business in the Mitchell College of Business, University of South Alabama. Prof. Dr. Joe Hair brings extensive experience as the founder and director of the Kennesaw State University DBA program. Prior to his appointment at USA he founded the Kennesaw State University DBA program, and before that held the Copeland Endowed Chair of Marketing in the Ourso College of Business Administration, Louisiana State University. He was a United States Steel Foundation Fellow at the University of Florida, where he earned his Ph.D. in Marketing.

Prof. Dr. Hair has authored over 60 books, including *Marketing*, Cengage Learning, 12th edition 2017; *Multivariate Data Analysis*, Prentice-Hall, 7th edition 2010 (cited 110,000+ times and is in the top five all time social sciences research methods textbooks); *Essentials of Business Research Methods*, Routledge, 3rd edition 2016; *Essentials of Marketing Research*, McGraw-Hill, 4th edition 2017; and *A Primer on Partial Least Squares Structural Equation Modeling*, Sage, 2nd edition 2017.

He also has published numerous articles in scholarly journals such as the *Journal of Marketing Research*, *Journal of Academy of Marketing Science*, *Organizational Research Methods*, *Journal of Advertising Research*, *Journal of Business Research*, *Journal of Long Range Planning*, *Industrial Marketing Management*, *Journal of Retailing*, and others. His work has been cited more than 144,600 times in academic literature. A popular guest speaker, Professor Hair often presents seminars on research techniques, multivariate data analysis, and marketing issues for organizations in Europe, Australia, China, India, and South America.



Ilan Alon, University of Agder, Norway

Ilan Alon (Ph.D., Kent State University, USA) is Professor of Strategy and International Marketing at the University of Agder. Prior to that he also had research positions in Harvard University, Georgetown University (USA) and University of International Business and Economics (China). Alon is a researcher in the field of international business with a focus on internationalization, modes of entry, political risk, cultural intelligence and emerging markets.

Ilan Alon publications have appeared in the *Harvard Business Review*, *Management International Review*, *International Business Review*, *Journal of International Marketing*, *International Marketing Review* and others. His books were published by Palgrave, Routledge, McGraw-Hill among other imprints.

In addition to being a professor, Alon is the Head of International Affairs for the School of Business and Law at the University of Agder, and leader of the Emerging Markets research group. He is also Editor-in-Chief of the *International Journal of Emerging Markets* and the *European Journal of International Management*. Ilan Alon has worked with government bodies, non-profit organizations, multinational companies and international association on various projects ranging from capacity development at the macro level to international business development at the firm or project level. Clients include USAID, illy, Darden, Disney, and others.

Ilan Alon has been a frequent speaker on various international networks including National Public Radio (USA), Voice of America (USA), RTV (Russia), Dagens Næringsliv (Norway).



Marco Cucculelli, Università Politecnica delle Marche, Italy

Marco Cucculelli holds a PhD in Economics from the University of Rome – Tor Vergata, Italy. He is Professor of Economics at the Department of Economics and Social Sciences, Università Politecnica delle Marche (UNIVPM).

He has been a visiting professor at the Kelley School of Business, Indiana University (USA) and the School of Economics and Finance, St. Andrews University (Scotland). He is currently involved in research activity at the Cracow University of Economics and the George Washington University. Marco has been a Fulbright Distinguished Chair at the University of Pittsburgh, Fall Term 2016-17, where he has taught a course on “Entrepreneurship, small business and economic development”.

He is an Associate Editor of the *Journal of Small Business Management* and the *Journal of Small Business and Entrepreneurship*, co-editor of the *EM-Journal of Applied Economics*, and member of the editorial board of *L'Industria*. He has published in the *Journal of Corporate Finance*, *Research Policy*, *Small Business Economics*, *Economics Letters*, *Journal of Evolutionary Economics*, *Management Decision*, *Entrepreneurship and Regional Development*, *J. of Small Business Management*, *Journal of Cleaner Production*, *Int.J. of Entrepreneurship and Int.l Management*, *Int.J. of Entrepreneurship and Small business*, *Rivista di Politica Economica*, *L'Industria* and other journals. In addition to the regular editorial activity, he has edited five special issues in international journals, including EBER.

He has been awarded the *JSBM 2014 Associate Editor of the Year*, and acted as chairman of the Selection Committee for Competitive Papers for the ICSB Annual World Conferences in 2017 (Argentina), 2016 (USA) and 2015 (UAE). In 2011 he has been elected – as Director at-large 2012-14 – to the Board of the *International Council for Small Business and Entrepreneurship* – ICSB, Washington, D.C. (USA).



Desislava Dikova, Vienna University of Economics and Business, Austria

Desislava Dikova is Professor in International Business CEE focus at WU Wien/ Vienna University of Economics & Business. She previously held positions at the University of Groningen, the Netherlands and King's College London, the UK. She earned her doctorate degree from the University of Groningen, the Netherlands, an Executive Master in International and European relations from the University of Amsterdam, the Netherlands and a Master of Science in International Economics from the Academy of Economics D.A.Tzenov, Bulgaria.

Desislava Dikova is the Editor-in-chief of the *Journal of East West Business* (published by Taylor Francis) and has been a member of the editorial board of the *Journal of International Business Studies* since 2007 and serves as an add hoc reviewer for multiple journals such as *International Business*

Review, *Thunderbird International Business Review*, *Organization Studies*, *Journal of Management Studies* and others. For her outstanding research she has been awarded twice the Academy of Management Best Reviewer Award (2007, 2009), the 2009 WAIB Emerald Award for Highly Commended Paper, she has also been the Academy of International Business Best Paper Nominee in 2009, and the Academy of Management International Management Best Paper Finalist in 2006 and 2008.



Maria Alejandra Gonzalez Perez, Universidad EAFIT, Colombia

Maria-Alejandra Gonzalez-Perez (PhD, MBS, Psy) is Full Professor of Management at Universidad EAFIT (Colombia). Maria-Alejandra is the Vice-President of Administration at the Academy of International Business (AIB) (2015-2018), coordinator of the Colombian universities in the virtual institute of the United Nations Conference for Trade and Development (UNCTAD) since 2009, Distinguished Fellow of the Association of Certified Commercial Diplomats; Research Partner at the CEIBS Center for Emerging Market Studies (CEMS), and Editor-in-Chief of the business journal AD-minister. Dr. Gonzalez-Perez holds a PhD in Commerce (International Business and Corporate Social Responsibility), and a Master's degree in Business Studies in Industrial Relations and Human Resources

Management from the National University of Ireland, Galway. She also did postdoctoral research at the Community Knowledge Initiative (CKI) in NUI Galway. Prof. Gonzalez-Perez was the Head of the Department of International Business (2009-2013) and Director of the International Studies Research Group (2008-2013) at Universidad EAFIT (Colombia). Prior to her positions in Colombia, she worked as a researcher in various organisations such as the Centre for Innovation and Structural Change (CISC), Irish Chambers of Commerce, and the Economics of Social Policy Research Unit (ES-PRU) in Ireland. She also has been a Visiting Professor at ESAN (Lima, Peru); Foreign Trade University (Hanoi, Vietnam); and the Universidad de Granada (Ceuta, Spain).

Dr. Gonzalez-Perez has published 12 books, over 40 academic peer-reviewed papers and several book chapters in the areas of internationalisation, sustainability, corporate social responsibility and international migration. Maria-Alejandra has lived, studied or worked in the UK, USA, Ireland, France, Spain, and Colombia, and have travelled as a tourist to over 70 countries.



Craig C. Julian, Southern Cross University, Australia

Craig C. Julian, PhD received his PhD in 1999 and it studied "*The Marketing Performance of International Joint Ventures (IJVs) in Thailand.*" Dr. Julian has accumulated approximately 140 publications in books, journals, and highly rated double blind reviewed conference proceedings. Dr. Julian's work has appeared in numerous high quality international journals including the European Journal of Marketing, Journal of Business Research, Journal of Small Business Management, Journal of Macromarketing, Journal of Services Marketing, Journal of Global Marketing, International Business Review, Thunderbird International Business Review, Asia Pacific Journal of Marketing and Logistics and the Journal of Small Business and Enterprise

Development to name just a few. His books have focused on joint ventures in the Asia Pacific Region as well as the globalization of Chinese Firms and a Research Handbook on Export Marketing. He has also won competitive research grants including the prestigious Australian Research Council (ARC) Discovery Grant as an Early Career Researcher as well as a Small ARC Grant. In 2012 Dr. Julian was awarded an Erasmus Scholarship by Corvinus University in Budapest to study Hungarian Joint Venture performance. Dr. Julian is also the Editor-in-Chief of the Journal for International Business and Entrepreneurship Development. Dr. Julian's research interests are strategic alliances, export/international marketing and international joint ventures (IJVs). He is also on the editorial review boards of the Journal of Management and World Business Research, Asian Academy of Management Journal, Journal of International Marketing and Exporting, International Journal of Trade and Global Markets, Journal for Global Business Advancement, FIB Review, Strategies in Accounting and Management journal and the Annals of Constantin Brancusi University – Economics in Romania.



Marin A. Marinov, Aalborg University, Denmark

Marin A. Marinov is Professor of International Business and Management at Aalborg University, Denmark. He has thought and conducted research in many countries on both sides of the Atlantic and Asia including Bulgaria, the United Kingdom, the United States, Finland, Sweden, France, Germany, Portugal, Spain, Italy, and China among others. His research interests include internationalization of business, management and marketing of multinational firms in general and internationalizing firms originating from emerging economies in particular, areas in which he has researched and published at length over many years. He has consulted for numerous multinational firms, such as Kraft Foods, and national governments, including Brazil, Pakistan and the Sultanate of Oman

on country and firm-specific strategies in the process of internationalization. He is Book Series Editor of the Palgrave Studies of Internationalization in Emerging Markets and Routledge Frontiers of International Business, Management and Marketing. Professor Marinov's latest publication, *Research Handbook of Marketing in Emerging Economies*, came on the market in 2017. He is on the editorial boards of a large number of reputable academic journals and periodicals, has published seventeen books, numerous book chapters and more than 90 academic articles.



Svetla Marinova, Aalborg University, Denmark

Svetla Marinova's research focuses on the internationalization of emerging economies and firms and the role of company internationalization and foreign direct investment in fostering sustainable business development and growth. She has been involved in research on outward foreign direct investment (with Child and Marinov), internationalization of SMEs from emerging markets (in SI-NET), attitudes toward advertising in emerging markets (with Petrovici, Marinov and Ford), the role of relationships and branding in emerging market contexts (with Cui, Shiu, Kumar), and technology transfer in emerging markets (with Khan and Ramirez). Svetla is co-author (with Czinkota, Ronkainen, Moffett and Marinov) of the first European Edition of International Business, a textbook that was specifically designed for the European context. She has published in European Journal of Marketing, International Marketing Review, Thunderbird International Business Review, Advances in International Management, Advances in International Marketing, Journal of Global Marketing, Journal of Euro-marketing, Journal of East-West Business, and Revista Faces, among others. Svetla has co-edited (with Marinov) three books on FDI and internationalization of emerging economies and firms, She has also guest co-edited special issues of European Journal of Marketing (with Paliwoda) and of International Marketing Review (with Carrigan and Szmigin).

European Journal of Marketing, International Marketing Review, Thunderbird International Business Review, Advances in International Management, Advances in International Marketing, Journal of Global Marketing, Journal of Euro-marketing, Journal of East-West Business, and Revista Faces, among others. Svetla has co-edited (with Marinov) three books on FDI and internationalization of emerging economies and firms, She has also guest co-edited special issues of European Journal of Marketing (with Paliwoda) and of International Marketing Review (with Carrigan and Szmigin).



John M. Mezas, University of Miami, USA

John M. Mezas is a tenured Associate Professor at the University of Miami's Miami Business School. He received his Ph.D. from New York University's Stern School of Business in 1998. He teaches Executive MBAs, MBAs, and Custom Executive Programs at the University of Miami and has taught in Executive Programs at London Business School, INSEAD, New York University, and Seoul National University. His teaching awards include five *Excellence in Teaching* award from Miami Business School and the *Most Popular Professor* award from BusinessWeek Magazine's Survey of University of Miami MBAs.

Dr. Mezas' research was nominated for several awards, and he won the *Best Paper* award from the Academy of Management's International Management Division. He has published in such scholarly journals as the *Harvard Business Review*, *Strategic Management Journal*, *Journal of International Business Studies*, *Organization Science*, *Journal of Management*, *Strategic Organization*, *British Journal of Management*, *Long Range Planning*, *Journal of International Management*, *AIB Insights*, *Asia Pacific Journal of Management*, and *Journal of Organizational Behavior*. He is Associate Editor of *AIB Insights* and has long served on Editorial Boards of the *Strategic Management Journal* and the *Journal of International Business Studies*. Dr. Mezas was also Chair of the Academy of Management's International Management Division during 2013-2104.



Immanuel Azaad Moonesar, Mohammed Bin Rashid School of Government, United Arab Emirates

Immanuel Azaad Moonesar R.D., the Assistant Professor- Health Policy and Research Leader of Health Policy at the Mohammed Bin Rashid School of Government, Dubai, United Arab Emirates. His qualifications include a Doctor of Philosophy (PhD) in Health Services: Leadership (Superior Distinction) from Walden University, USA; Master of Quality Management (Distinction) from the University Of Wollongong Australia (UOW); a Postgraduate Diploma in Institutional Community Nutrition & Dietetics (Distinction) & a Bachelor of Science in Human Ecology: Nutrition and Dietetics from the University of West Indies (UWI), Trinidad & Tobago.

He is also the Managing Director, at "I AM Consulting" (Trinidad & Tobago, Caribbean), in addition to, the role of the President (Chapter Chair) and Executive Board member of the Academy of International Business – Middle East North Africa (AIB-MENA) Chapter. He is also a Registered Dietitian and possesses professional certifications in 'NEBOSH Occupational Health and Safety', 'Project Management: Certified Business Professional (CBP)' and 'Quality Management System Internal Auditors (ISO 9001:2008)'. He has published in over 85 publications with high impact factors in peer-reviewed journals, peer-reviewed international conferences, co-authored books and book chapters to date. His PhD dissertation manuscript was entitled: The Role of UAE Health Professionals in Maternal and Child Health Policy. His career experience includes quality assurance and management, nutrition and dietetics, health & safety, teaching and institutional research. While, his research interest is in public policy, international business policy, healthcare management & leadership, maternal & child health, health policy and innovation, nutrition, and quality management.



James Nebus, Suffolk University, USA

James Nebus is Associate Professor of Strategy and International Business and Director of the Undergraduate Global Business Program at Suffolk University in Boston (MA, US). He has published in the *Journal of International Business Studies*, *Academy of Management Review*, and *Journal of International Management* among others. He received a Ph.D. in international business and MBA from the University of South Carolina (SC, US), as well as BS in Electronic Engineering and BA in Economics from Rutgers (NJ). Jim teaches international business and global strategy, and is on the editorial review board for the *Journal of International Business Policy*. He has 22 years of industry experience including 10 years in international management positions in Europe and Asia.



William Newburry, Florida International University, USA

William (Bill) Newburry is Chair of the Department of International Business and the Ryder Eminent Scholar of Global Business at Florida International University. He also serves as a Non-Resident Senior Research Fellow at the China Europe International Business School (CEIBS) Center for Emerging Market Studies. Bill served as Chapter Chair of the Academy of International Business Latin America (AIB-LAT) Chapter from 2012-2018. He previously served as Chair of the Global Strategy Interest Group of the Strategic Management Society. Dr. Newburry earned his Ph.D. in 2000 from New York University's Stern School of Business, with co-majors in the fields of international business and management. Prior to pursuing an academic career, he worked six years in the F-15 Contracts and Pricing Department at McDonnell Douglas Corporation in St. Louis.

Dr. Newburry's research focuses on how multinational corporations manage and relate to subsidiaries and other local stakeholders when they invest in foreign countries, with an emphasis on issues related to corporate reputation in emerging markets. He co-authored *Emerging Market Multinationals: Managing Operational Challenges for Sustained International Growth* (2016, Cambridge University Press), and has co-edited two additional books. Bill has published 40+ articles in top-tier, peer-reviewed journals, along with another 20 chapters in edited books. Dr. Newburry is Series Editor for *Research in Global Strategic Management*. He currently serves on the Senior Advisory Board of the *Review of International Business and Strategy*, and on the editorial boards of the *Journal of International Business Studies*, *Journal of World Business*, *Journal of Management Studies*, *Global Strategy Journal*, *Thunderbird International Business Review*, *Cross Cultural and Strategic Management*, and *Canadian Journal of Administrative Sciences*.



Arnold Schuh, Vienna University of Economics and Business, Austria

Arnold Schuh is Director of the Competence Center for Emerging Markets & Central and Eastern Europe (CEE) and Assistant Professor at the Vienna University of Economics and Business (WU Vienna). He is also Adjunct Associate Professor of International Business Studies at the Carlson School of Management, University of Minnesota, USA, and Honorary University Professor at Corvinus University of Budapest, Hungary. He received his Master in Business Administration and his Doctorate in Economic and Social Sciences from the WU Vienna. He was Visiting Professor at the College of Business and Economics, University of Kentucky in Lexington, USA, and Visiting International Business Scholar at the International Business Department of the University of South Carolina in Columbia, USA.

His primary research areas are marketing and strategic management in CEE and Europe. Current research focuses on strategies of foreign multinational companies in CEE and competitive strategies of local firms in CEE ("Local Heroes in CEE"). In addition to his academic work, Arnold Schuh has served as a consultant and management trainer to a number of companies including Rank Xerox, Philips-Whirlpool, Philips Medical Systems, Skandia, Bosch Austria, RHI, Boehringer-Ingelheim, Commerzbank, Bank Austria and Austrian Post AG



Thomas Steger, Regensburg University, Germany

Thomas Steger is Full Professor of Leadership and Organization at the University of Regensburg. He has graduated from the University of Fribourg (Switzerland) and received his doctoral degree as well as his habilitation from the Chemnitz University of Technology. Moreover, he acted as professor (ad interim) at the University of Hohenheim and at the University of Erfurt.

His research interests focus on corporate governance (especially boards of directors) and employee owned companies. Particular emphasis is placed on the transforming countries of Central and Eastern Europe.

Since more than two decades, Thomas is intensively engaged in the area of management in Central and Eastern Europe. He was a co-founder (and currently editor-in-chief) of the Journal of East European Management Studies. He was involved in setting up an MA program in European Studies at the Bulgarian-Romanian Interuniversitarian Centre for Europe in Rousse and Giurgiu. Moreover, he was a guest lecturer at different universities in Central and Eastern Europe and has led and contributed to several research projects in the field, related to topics such as business elites, corporate governance, talent management, MNC subsidiaries, and business corruption.

Besides his academic career, Thomas has served as a member of the Executive Committee of a large Swiss non-profit organization and as HR manager of an industrial medium-sized company. Since many years he is also engaged in numerous executive training and education programs in several European countries.

Welcome Letters

Letter from the AIB-CEE Chapter Chair

Dear AIB-CEE Members!

Welcome to Cracow for the fifth 2018 Academy of International Business Central and Eastern Europe (AIB-CEE) Chapter Conference.

The overarching purpose of AIB-CEE, which covers 19 countries from the CEE region is to foster cooperation amongst scholars and specialists from Central and Eastern Europe in regard to conducting joint research, disseminating research outcomes and improving international business education standards, mainly through the organization of regional conferences, seminars and initiation of international research projects. The membership of the AIB-CEE Chapter as of 1.08.2018 stood at 102 members. The Chapter Board is composed of scholars from Slovenia, Estonia, Hungary and Poland. The Chapter establishment project received the support of such organizations as CEEMAN, Corvinus University of Budapest (Hungary), University of Ljubljana (Slovenia), University of Tartu (Estonia) or the Poznan University of Economics and Business (Poland).

As a one of the AIB chapters we have already organized 6 important events during our five years of activity.

The first kick-off event of AIB-CEE was the seminar „Challenges for International Business and Teaching in the CEE region – Towards an Integrative Perspective”, which took place on 24 January 2014 at the Poznań University of Economics and Business (Poland). The seminar gathered almost 100 scholars and business representatives from altogether 10 countries. The purpose of the event was to involve top CEE scholars and managers in a joint discussion to elaborate on a shared perspective of key challenges in IB scholarship related to the CEE region so as to outline a research program for future projects.

The first AIB-CEE conference “Competitiveness of the CEE Region in Global Economy”, took place on October 9-11, 2014 at the Corvinus University of Budapest in Hungary. The conference gathered more than 100 scholars and business representatives from altogether 22 countries. The aim of the conference was to provide a platform and opportunity for discussing International Business and Competitiveness research findings on Central and Eastern European business and management practices, firms, industries and countries; meeting and learning insights of internationally recognized scholars with long lasting international research credits on the CEE region as well as networking to build research and academic collaborations, and developing skills supporting paper publication.

The 2nd AIB-CEE Seminar took place on January 9-10, 2015 hosted by the Centre of International Relations, Faculty of Social Sciences; University of Ljubljana, Slovenia. The topic “Recognising the changing character of the CEE region: towards an updated agenda of business, IB research and teaching” attracted truly international group. Over 50 registered participants of 14 different nationalities from 9 different countries gathered in Ljubljana. IB scholars and practitioners from the region discussed recent research findings in the area of

international business from the region and about the region, exchange challenges and innovation in IB teaching and meet innovative multinational enterprises from CEE.

The 2nd AIB-CEE Conference took place on September 17-19, 2015 at SGH Warsaw School of Economics in Poland. The conference theme “International Business and Research in the CEE Region. Why Is It Worth Doing?” was chosen in order to draw more attention to doing business and research in Central and Eastern Europe and to promote collaboration among businesspeople, scholars and specialists, which is in line with a general idea of establishment of the Central and Eastern European Chapter of the Academy of International Business. The conference gathered more than 90 scholars and business representatives from altogether 14 countries.

The 3rd AIB-CEE Conference “Boosting the competitiveness of Central Europe through digital economy”, which took place on September 29-October 1, 2016 at University of Economics in Prague, Czech Republic, focused on issues such as new forms of businesses, role of digital economy in Central Europe, digital entrepreneurship and possible impacts of digital economy on competitiveness and economic growth in the CEE region. The conference gathered more than 90 scholars and business representatives from altogether 20 countries.

The 4th AIB-CEE Conference “Changing global landscape and regional cooperation: from regional value chains to China’s One Belt, One Road initiative and beyond” which took place in Ljubljana, Slovenia on September 26-28, focused on key aspects of current trends in international business and implications for countries, markets, companies and consumers in CEE, taking into account the CEE and China perspective. The conference was preceded by the 1st AIB-CEE Chapter Doctoral and Junior Faculty Development Workshop on “Relevance and rigor in IB research: capturing CEE context richness”. The conference gathered more than 90 scholars and business representatives from altogether 19 countries.

We were also very active during AIB 2018 Annual Meeting in Minneapolis, in USA, which took place on June 25-28, 2018. As a chapter we have organized AIB-CEE Chapter Panel: “New Modes of Cooperation in Emerging Markets: a CEE and Russia perspective” and were the member of the panel: “Think Global, Act Local: Best Practices for Managing and Developing AIB Chapters” organized by AIB-Southeast US Chapter as well as participated in AIB Chapter Chairs Dinner.

We have to be aware of the fact that AIB-CEE is one of the youngest chapters in AIB community; however, the region has a long tradition in global business and IB teaching. In fact, this year AIB-CEE Chapter will celebrate 5 years of its activity.

The fifth AIB-CEE Chapter Conference in Cracow: “International Entrepreneurship as the Bridge between International Economics and International Business” will focus on the relationships between International Entrepreneurship, International Economics and International Business in the CEE region. During the conference, we will have a lot of interesting sessions and panels. I would like to invite you all to a special Methodology Session with Prof. Joe F. Hair Jr. – Workshop on PLS-SEM. Moreover, we will also have time to learn more about AIB and AIB Community. In this session we will have the opportunity to discuss with AIB Vice-President Administration (2015-2018) – Maria Alejandra Gonzalez Perez and two Chairs from AIB Chapters – AIB-LAT (Latin America) – Wil-

liam Newbury and AIB-MENA (Middle East and North Africa) – Immanuel Azaad Moonesar as well as with AIB Insights Editor – John M. Mezas. There will be also a special session devoted to the AIB-CEE Chapter – AIB-CEE Chapter Development Session where we will discuss the developments and achievements of AIB-CEE Chapter in last 5 years (2013-2018) plans and future challenges for the AIB-CEE Chapter. Within more than 130 submissions and more than 150 participants the 5th AIB-CEE Conference will be the largest conference in the history of the AIB-CEE Chapter.

We would like to thank our host institution, the University of Economics in Cracow, Faculty of Economics and International Relations for welcoming us to Cracow. We particularly thank Professor Krzysztof Wach, our Conference Chair, for his dedication and key role in making this meeting happen. We hope that the diversity of conference tracks will prompt many IB scholars to draw their attention to the CEE region and enable them to share the outcomes of their research and to develop during the conference networks focused on joint research, comparative studies and publications. We really appreciate the hard work carried out by Organizing Committee and all Track Chairs, AIB-CEE Executive Board members to put together the meeting for us in Cracow. Moreover, we would like to thank all people, especially local Cracow team including Agnieszka Głodkowska, Marek Maciejewski, Bożena Pera, Krystian Bigos and others, all Reviewers, who have contributed so much of their time to make this conference happen. We are looking forward to a warm atmosphere during the conference, great sessions and panels, as well as fruitful networking during these unforgettable days in Cracow.

Łukasz Puślecki
AIB-CEE Chapter Chair

Kraków, September 2018

Letter from the Conference Program Chair

Dear AIB-CEE Conference Attendees!

Welcome to Kraków for the 5th AIB-CEE Chapter Annual Conference dedicated to the main theme of “International Entrepreneurship as the bridge between International Economics and International Business”!

International entrepreneurship is a wonderful human activity, expression of our creativity and basic fuel of our development in the global context. The overarching aim of AIB-CEE conferences has been to promote and advance research on international business through meeting, research dissemination and cooperation of academics from different parts of the world. We believe we all have much to share and much to learn from each other. We hope this AIB-CEE conference will once again foster inspiring exchange between researchers and result in enhanced collaboration between our guests.

This conference is very special for two reasons. First, this year we celebrate the 5th Anniversary of our relatively young Chapter, so this is the fifth jubilee conference and we will celebrate with the Birthday Cake on Friday, so please DO NOT miss this opportunity. Second, this conference turned out to be the largest AIB-CEE annual meeting ever. This is thanks to You All that this year we have reached the following statistics:

- 128 submissions;
- 146 conference attendees from 31 countries;
- and what is more attendees represent 6 continents (Australia, North America, South America;
- Asia, Africa and Europe of course);
- 127 reviewers who done altogether 283 reviews;
- 13 editors;
- as well as 32 supporting journals, including 3 impact factor journals, 7 SCOPUS journals and 22 regional international journals, what is more we have been supported also by a Palgrave series offered by Marin Marinov.

This is the 5th Anniversary so we will celebrate for 5 days (from Tuesday till Saturday). On Tuesday we will have a special working meeting of the AIB-CEE Executive Board with the representatives of the AIB Headquarters. The pure scientific feast is designed for three days (Wednesday – Friday). During the first day we start with an excellent keynote address delivered by esteemed professors from very different backgrounds and different parts of the world. On Wednesday we have the pleasure to invite all to a special session designed especially for these interested in publishing in top journals where we all will have a unique chance to learn from the best and discuss issues related to crafting articles for highly ranked journals with our keynote editors. The conference working sessions on Thursday embrace and illustrate the many faces of international business, especially international entrepreneurship. On Friday we will practice our new methodological skills, followed by AIB-CEE Chapter Development Session and Official

Celebration of 5th Anniversary! We are certain that you will find many occasions to engage in lively discussions during our various working sessions during these three days. On Saturday we provided the opportunities for additional social and tourist programs.

After a long conference day on Wednesday and Thursday, we cordially invite you to a time of integration and fine dining in Cracow Old Town, and for those of you who have no limits in integrating we offer additional social events. On Friday afternoon, after working sessions, we have planned a city tour for our guests. We want to share with you the many wonders of our city and hope you will discover and experience its unique atmosphere.

We want to thank all those who contributed to this event including the organizing committee team, volunteers, authors and our invaluable reviewers.

We wish you a fruitful and beneficiary stay in Cracow, a fascinating city where history and tradition meet with innovation and modern lifestyle. We trust 5th AIB-CEE Chapter Annual Conference will bring long lasting research insights, numerous opportunities for network and academic collaborations and, last but not least, many lasting memories to take home.

Krzysztof Wach

Conference Chair

AIB-CEE Chapter Vice-Chair for Program 2018

Kraków, September 2018

Letter from the Rector as the Local Host

Dear Sir or Madam!

On behalf of the entire University of Economics in Krakow as well as my own, let me welcome to the hospitable walls of our University all Jubilee Participants of 5th Annual AIB-CEE Chapter Conference. I am very pleased that such a great group of representatives of the world of science, both from Poland, as well as from many foreign centers, wanted to participate in the beginning of the conference. Welcome to the Royal City of Krakow. Above all, I am happy with your presence at our University.

The University of Economics in Krakow is a modern academic center with traditions dating back to 1925, conducting numerous research and education projects.

Currently there are over 17.5 thousand students at five faculties: Economics and International Relations; Finance and Law; Public Economy and Administration, Commodities and Product Management, and Management, it is one of the largest research centers of the economic profile in Poland.

The University, continuously for almost a hundred years, have been faithfully implementing the mission indicated by its founders: *Rerum Cognoscere Causas et Valorem* (Know the causes and values of things), shaping the hearts and minds of successive generations of outstanding specialists.

Currently the University of Economics in Krakow offers 30 tracks of studies in Polish and English, postgraduate studies and prestigious MBA studies. It conducts studies for PhD students and has the right to award all degrees and academic titles provided for by Polish law in the field of economic sciences. It also cooperates with over 200 universities from Poland and abroad, carrying out joint research and educational projects.

In the era of universal internationalization, which we observe almost everywhere around, it is necessary to discuss and take specific outgoing activities to meet the expectations of the changing world. Business management in the international space, management of information, knowledge and intellectual capital, methods and tools as well as information systems in management are just some areas, which must be diagnosed, researched and described to search for real solutions for contemporary challenges.

Welcoming once again in the walls of the University of Economics in Krakow, I wish you that the conference that is just beginning becomes an opportunity for dialogue for building platforms for the exchange of ideas, as well as many creative discussions and networks of scientific contacts.

Andrzej Chochół

Rector

Cracow University of Economics

Selected Conference Papers

(There were 129 paper submitted, however only 28 submissions requested to be included in the conference proceedings, this is why this volume includes only selected conference papers.)

Acceptance

Number of Submissions: **129**
Number of Presentations: **119**
Overall Acceptance Rate: **92%**

Reviewing

Number of reviewers: **127**
Number of reviews: **283**
Avg. Number of Reviews per Reviewer: **2.3**
Avg. Number of Reviews per Submission: **2.2**



CRACOW
UNIVERSITY
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INTERNATIONAL
TRADE
DEPARTMENT

ENTRE 2018

Conference Proceedings

12-14 September 2018

Kraków, Poland

Legal Notice: This is a draft version of the paper presented during the 9th ENTRE Conference, which was also 5th AIB-CEE Chapter Annual Conference on September 12-14, 2018 (Kraków, Poland). This paper has the **conference proceedings** status, after modifications it will be published in a journal or as a chapter in a monograph.

Theoretical analysis of migrant motivations to entrepreneurship

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Abstract

This paper is formulated based on prior studies on migrant entrepreneurs while taking into account their motivation to become entrepreneurs in the host country. The analysis shows a diverse research nature of migrant entrepreneur's motivations to engage in entrepreneurship in the host countries mostly coming from emerging markets specifically Asian countries and in particular south-east Asia, countries such as India, Bangladesh, China, Sri-Lanka, and Pakistan to settle in Australia, New Zealand, The UAE, The U.S, Canada the UK, and Germany and the Netherlands. We also found that most of their reasons for venturing in entrepreneurship were lack of job opportunities that fit their skill sets, discrimination in workplaces, skills, and ease for starting online businesses and talent to exploit business opportunities in the host country. At the end, we presented the results in form of a theoretical model, illustrating the motivational factors for migrant entrepreneurs to engage in entrepreneurship in the studied host countries.

Keywords: Migrants, Migrant entrepreneurs, Migrants' motivation, entrepreneurship

JEL codes: F22

INTRODUCTION

Amid political turmoil and economic crisis triggering migrant policy debates in most migrants receiving countries such as the U.S, the U.K, Germany and Australia among others stand to end debates predominantly about migrants and migrant entrepreneurs. Even though there is evidence stretching over decades that migrants evolved to entrepreneurs contributing massively to the economic growths of their host countries and extending to home countries. It is significant to remember the most recent events involving migrants that led to government shutdown in the U.S, which was directly affected by the disagreements between the Democrats and the Republicans, in Germany, Angela Merkel losing the majority votes in her fourth-term and had to form a coalition government and not forgetting the bitter Brexit referendum results that was partly affected by the “Leave Group” migrants rhetoric’s. On the other hand, the increased influx of migrants into the USA and the European Union countries has motivated the literature responses are both discipline and area centric and mostly considered the migrant as a recipient of migration policies and programmes (Elo & Vemuri, 2016).

In all the events mentioned above, all the countries involved are the top migrants receiving countries in the world, for example, the US received 46.6 million, Germany 12 million and The UK 8.5 million (UN, 2015). While at the same time most economically beneficiaries of migrant entrepreneurs. These cases and several debates motivated series of research in academia across the globe. Most importantly, it shows migrant entrepreneurs have the potentials to propel economic growth in various sectors of the host countries and home country. For example, cases such like Chinese migrant entrepreneur that facilitated the internationalization and entry of Chinese companies into Hungary and central Europe (Wong & Primecz, 2011), also, (Figueira, Caselli, & Theodorakopoulos, 2016) suggest there is scope for migrant entrepreneurs to play an essential part in engendering cosmopolitan transformation.

Home countries are also known to have benefitted hugely from their emigrants leaving in more favourable economies in form of remittances and investments, which contribute significantly in fostering economic development in the home countries. In the economic development perspective, remittances can be of use for both consumption and investment purposes, which further encourages the demand for goods and services, and contributes to economic development. It has played a decisive role in enhancing the social and economic conditions of the recipient’s families consequently contributing to the gross domestic product (GDP) (Barai, 2012).

This article aims to highlight migrants’ motivation to become entrepreneurs in their host countries.

First, the main definitions, used in this article are presented. Later, migration theories, explaining migrants’ contribution are explained. Migrant entrepreneurs’ evolution and motivation to start business and challenges, which these entrepreneurs face in host countries, are highlighted after this.

We did a rigor analysis of several cases of migrant entrepreneur’s activities that are perceived to have contributed to the economic development of their host countries; the study stretched from most of the OECD countries that host a large number of migrants from mostly the developing and underdeveloped countries particularly in Southeast Asia.

THEORETICAL ANALYSIS OF THE MAIN DEFINITIONS

Meaning of international migrants

In general, international migration can be defined as the physical movement from one geographic point to another (Agozino, 2000), crossing national borders (Boyle, Halfacree, and Robinson 1998). The UN specifies a migrant as 'any person who changes his or her country of usual residence' (United Nations 1998), with the country of usual residence' representing the place where the person has the centre of his life (United Nations 1998).

Furthermore, in addition to the above definitions, The International organization for Migration (IOM, 2011), defined a migrant as anyone who is moving or has moved across an international border or within a State away from his/her habitual place of residence, irrespective of (1) the person's legal status; (2) whether the movement is voluntary or involuntary; (3) what the causes of the movement are; or (4) what the length of the stay is.

Definition of entrepreneurship

The word "entrepreneur" has a different meaning for different people. However, it is more logical looking at the concept of entrepreneurship as a process, and the individual involved in as an entrepreneur who can determine, organizing and exploiting business opportunities in order create and manage an organization.

Shane and Venkataraman (2000) defined entrepreneurship as "the process by which 'opportunities to create future goods and services are discovered, evaluated and exploited'". Shane (2000), highlighted several key points that followed from using this definition. For instance, the definition does not explicitly require that an entrepreneur must be a firm founder. A common assumption in the research relating to entrepreneurship allows for the fact that innovative ideas for goods and services can come from anywhere in the organizational hierarchy and not just from the top (i.e., business owners or founders) Shane and Venkataraman, 2000).

Definition of migrant entrepreneurs

Due to the lack of an internationally agreed definition of a migrant entrepreneur. In this paper, migrant entrepreneurs are defined as those foreign-born business owners "who seek to generate value through the creation or expansion of economic activity, by identifying new products, processes or markets" (OECD, 2008). Standard practice in the entrepreneurship literature is to assimilate entrepreneurs to the self-employed, whether or not they employ other persons. This approach is followed throughout the paper, where the terms self-employed and entrepreneur are used interchangeably.

Theories used to explain motivation to migrate

Research on migration and international mobility is primarily centred on two economic views (Elo & Vemuri, 2016). The first side of it is associated with the cost and liability or the controlling the negative influence of the exodus (e.g. Collier 2013) while the second part of the narrative is the side of diaspora resources, the assets (e.g. Tung 2008). In summary, both sections of the theories are linked with the push and pull factors focusing on the causes and factors that push people to migrant and the other pull side presenting the perceived benefits one could get while living in the host country.

These theories are surrounded with both negative and positive social-economic implications on either side, which triggered many studies resulting to a multitude of migration theories and in particular theories of labour migration. Even though the focus of this paper is more on migrant entrepreneur's motivations for entrepreneurship, we first have to consider their motivation to migrate before we may have a clear understanding of their motivation to engage in entrepreneurship in their host countries. That being said, we briefly highlight theories (see Table 1) explaining events that motivate migration taking into account the Classical theory of labour migration (Lewis, 1954), which lay emphasis on the oversupply of labour in an economy. Lewis assumptions points to over populated countries or region with low resources to sustain standard of living taking into account the lack of proper utilization of the available resources in such economies. This theory relates to the Dual Labour Market Theory (Piore, 1979) which explains the main reasons that are related to pull factors that exist in developed economies. Another essential theory (New Economics of Migration (Stark and Bloom, 1984) Relative Deprivation Theory lay emphasis on the wage differences between two countries or regions, which is also linked, to labour demand and supply, the implications of these theories are the push and pull that motivate people from low wage countries to migrate to countries with higher wages.

Collectively, these theories explained the push and pull factors that motivate people to migrate to other regions. In many cases, these correlates with the events that took place in the recent decades where a large number of young people from developing countries have been constantly moving to the developed countries in search of better life opportunities.

Table 1. Economic theories of migration

Economic theories of migration	Authors
Classical	Lewis, 1954
Neo-classical	Harris and Todaro, 1970
Keynesian	Hart, 1975
Dual Labour Market Theory	Piore, 1979
Neo-classical	Sjaastad, 1962; Todaro, 1970; Borjas, 1980
Value expectancy	DeJong and Fawcett, 1981
New Economics of Migration	Stark and Bloom, 1984

Source: own study.

The decision to use these theories is simply the fact that, they are the fittest theories explaining the factors that caused people to migrate from home to host countries. We consider migrant entrepreneurs have much in common when it comes to push and pull factors of moving from home to host countries.

In a broader sense, we will lay more emphasis on the theory of "Mixed embeddedness" by (Kloosterman, van der Leun, & Rath, 1999) and (Harney, 2006), which was formulated to fill up the gaps that existed in the theoretical models of previous theoretical models of migrant business enterprise. Specifically, the theoretical perspective of their theory explains immigrant entrepreneurship in specific host countries concerning studies that stretched some economic years while taking into account both genders and some generations. It is argued that, while the "mixed embeddedness" illuminates gives a more comprehensive explanation than previous theoretical models (Peters, 2002).

The argument presented in this theory explains the embeddedness helps elaborate how migrants involvement in the migrant social network and the social-economic and politico-institution environment in their host countries plays a pivotal role in the economic development of their host countries. Building on this, we further explore the literature to define what we consider as economic contributions of migrant entrepreneurs. Explicitly, we lay more emphasis on the types of economic inputs such as their role in the increased competitiveness and innovation in SMEs sector, increased fiscal revenue for the host countries, increased internationalization through transnational linkages, increased employment possibilities for ethnic/minority individuals to say the least.

Evolution process of migrant entrepreneurs

Several studies within the literature demonstrated the emergence of migrant entrepreneurs from initial immigrant status to migrant entrepreneurs, (Ren, and Liu, 2015). Internationally, migrants always elvove either by their legal status or from workers to entrepreneurs (Fee and Rahman, 2014). Despite the limitations such as East-Asian and South-East Asian countries discouraging permanent residence of migrants (Piper, 2004).

It is vital to recongnize the motivation of migrant entrepreneurs trying to settle in their host countries while looking at their elvoving processes. Migrant entrepreneurs ability to adopt using their social networks “international and local” coupled with key drivers that lead to decisions to start and run small in rural areas while relying on local firms and international social networks. In a study by (Eimermann and Kordel, 2017), shows lifestye migrants in rural Slovenian Goriška region and the Swedish county Värmland impact social-economic changes.

However, transnational entrepreneurship is not limited to the South Asian migrants, other migrant groups are also engaged in entrepreneurial activities in South Korea such as Filipinos, Indonesians, Vietnamese, Thais, and the Chinese from East Asia and South-East Asia and Nigerians from Africa (Fee and Rahman, 2014). Of these migrant groups, the transnational entrepreneurship of Nigerian migrants is a case in point. The number of Nigerian migrants is lower than that of other migrant groups mentioned above. Approximately 4,000 Nigerian migrants came to work in South Korea between 1985 and 2005 (Kim, 2014). Despite their small population in the country, some Nigerian migrant entrepreneurs have been involved in transnational businesses (Zhou, Xu, and Shenasi, 2016) in the country’s leading tourist district Itaewon in Seoul. The Nigerian entrepreneurs are mostly street vendors at Itaewon selling various African handicrafts and artifacts (Rogerson, 2014). Apart from tourists, around 30,000 American troops living close to Itaewon are also a strong customer base for their products, (Kim, 2014; Fee and Rahman, 2014).

Migrant entrepreneurs integration and success, (Andrejuk, 2017) highlights a unique case of EU- 15 and the EU 12 migrants entrepreneurs in Poland which shows cultural differences also play a role in the success of migrant entrepreneurs. Immigrants from the UK and Spain attract customers by employing their cultural heritage while the immigrants from the EU-12 succeed in their business when they fully integrate in the host communities. In Australia, (Azmat and Fujimoto, 2016) shows Indian women entrepreneurs experiences and entrepreneurial success depend massively in their family embeddeness and cultural heritage. Their study suggest that Entrepreneurship among Indian MWEs is a complex phenomenon influenced by their being an Indian, a woman

and a new Australian, all of which interact and influence their family dynamics and entrepreneurial experience. Ethnic enclaves and social networks (Williams, and Krasniqi, 2018) also provide a good support for immigrant entrepreneurship background as seen in the study of Chinese and Turkish speaking communities in London, (Bloch and McKay, 2015; Renzulli et al., 2000). Another study of female migrant entrepreneurs in Vienna (Mobility and embeddedness) also suggests family roots influence female migrant economic and social activities. It is important to recognize how important social-cultural capital can influence entrepreneurship among migrant entrepreneurs, (Dannecker, and Cakir, 2016; Rogerson and Mushawemhuka, 2015).

In a real comparison of 2000 Indian migrant entrepreneurs in Australia by (Chavan and Taksa, 2017), suggest, human and social capital influence the success of those Indian migrant entrepreneurs' adaptation and establishment in their businesses which are mostly in the service sector. It is imperative to acknowledge the ones with niche and ethnic focus businesses depend on their ethnic groups for success as well as their educational and professional experiences was a huge factor for their quick success (Chavan and Taksa, 2016). Similarly, The Koreans migrant entrepreneurs in Australia mostly running restaurant businesses as self-employment practice also relied on their community ethnic funds and pre-existing networks for starting and running a business. (Song, 2013).

In addition, migrant entrepreneurs from South-East Asia demonstrated quick adaptation to their host communities by identifying their markets targeting ethnic populations, similar to the above mentioned cases, Bangladeshi migrant entrepreneurs target over 30,000 Bangladeshi migrants living in South-Korea with a targeted lucrative market of temporary and mobile migrant workers whose priorities in consumption behaviour are halal food, multimedia entertainment, and telecommunication and travel facilities. They opened halal grocery shops and restaurants and set up telecom outlets and travel agencies to cater to an ethnic market.

In many cases, migrant entrepreneurs have repeatedly demonstrated that creativity and knowledge is the key to survival and success. For instance, (Chu 2018) study shows that less established migrant entrepreneurs utilize design copying in China as a tool for market survival. Even with limited formal education in fashion, resources and merchandising, migrants claimed success in delivering the right styles and trends at the right time to keep their businesses afloat. According to Chu, these competing practices constitute 'paradoxes of creativity', dynamics that highlight creativity as a fluid cultural category that is always subject to tensions and contestations (Chu, 2018; Murphy, 1999).

Table 2 shows, that migrant entrepreneurs evolve on different levels and their entrepreneurial process also follows a similar pattern, as highlighted in the above table. The stages of their entrepreneurial journey start from the conditions that push and motivate them to engage in entrepreneurship, which are considered positive and sometimes negative. From there, they move to the preparation level which involves savings, sourcing financial capital, and gathering knowledge of their various markets etc. The third level involves the implementation, thus, business registration, recruitment of employees, understanding their customers, industry knowledge, production and promotion, business strategies and problem solving guidelines are designed at this level among other things. When finally their business shows signs of success, expansion strategy is mapped out at this level as shown in the fourth level of their entrepreneurship process.

Table 2. Migrant Entrepreneurs entrepreneurial process.

Entrepreneurial process of migrant entrepreneurs						
Stages	Preparation		Implementation			Expansion
(Condition lead to entrepreneurship)	Savings, loans and learning skills		Business registrations, setting up business space and employment			Getting into new zones and international markets
Lack of jobs, Highly competitive job markets, lack of skills in certain cases, lack of language skills, cultural differences, discrimination in work places, determination to grow, entrepreneurial spirit, knowledge of the business, Internet business skills, discover opportunities in the markets etc.	Market knowledge	Business knowledge	Customer knowledge	Business knowledge	Industry knowledge	Customer knowledge
	Analyse and planning		Strategies, problem solving and communication			Problem solving, develop new businesses
	Entrepreneurial determination, self-belief and optimism		Entrepreneurial determination, self-belief, problem solving and energy			Entrepreneurial & affiliation, problem solving, energy and creativity
	Trust	Market information	Trust, introductions and Credibility	Promotion Product/Services Feedback	Promotion Product/Services Feedback	Information New Markets Opportunities

Source: own study.

Motivational factors influencing migrants to become entrepreneurs

In figures, in 2017, The UN international migration reports indicated there are 258 million international migrants worldwide, that is a massive increment from 220 million in 2010 and 173 million in the year 2000 (UN, 2017). Among the 258, In 2017, of the 258 million international migrants across the world, 106 million were born in Asia. While Europe was the region of birth of the second largest number of migrants (61 million), followed by Latin America and the Caribbean (38 million) and Africa (36 million) see figure 2 (UN, 2017).

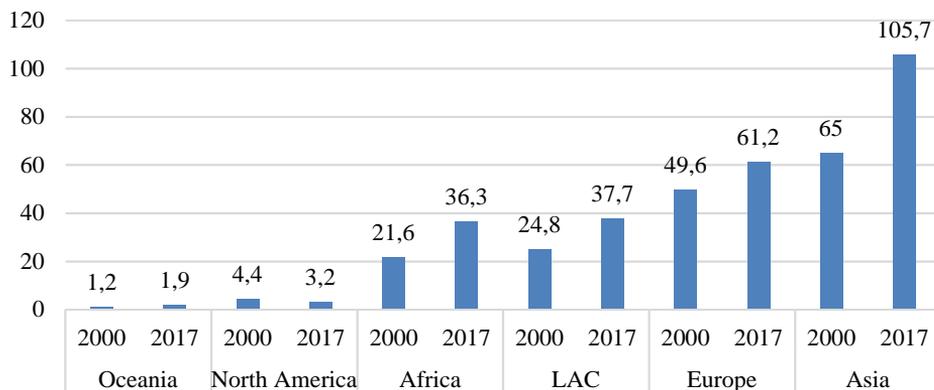


Figure 1. International migrants 2000 and 2017, in millions.

LAC means Latin America and the Caribbean.

Source: UN, 2017.

Among those migrants, they are classified into four distinct sections namely as Refugee, Labour migrants, Migrant entrepreneurs, and expatriates migrating for different motives such as seeking for greener pastures in more developed countries, displaced by war or persecution based on cultural and religious believes and some for business purposes. Hence, this paper aims to analyse the literature on migrant entrepreneurs motivation; we focus only migrant entrepreneurs.

In many cases, migrants face numerous challenges, for instance, the case of Nepali migrant entrepreneurs in Finland (Tamang, 2015). These factors collectively motivate them to change their economic status in their host countries. Figueira et al. (2016) in their paper stated, central to the growing interest in migrant entrepreneurship is the considerable benefits it may generate not only for ethnic groups in the urban population but, more generally, for the host economy as well. By compensating structural imbalances in the host country's labour market, migrant entrepreneurship is essential in creating employment opportunities for migrants and alleviating social tensions (Baycan-Levent and Nijkamp, 2009). A study in Aberdeen, Scotland investigated the drivers, motives, and attitudes that led to ethnic minorities starting successful start-ups, the results reveal some interesting, influential factors that lead to the successful start-up decision. These include a positive mind-set, self-efficacy, steadfast determination, knowledge of the market and local business culture and sound financial management (Ullah, Rahman, Smith, & Beloucif,

2016). Interestingly, their samples stretched across 25 ethnic entrepreneurs from a variety of nationalities and cultures originating mainly from the Indian subcontinent region. They include entrepreneurs from India, Bangladesh, Pakistan, Sri Lanka and some others. Their motivations vary according to their culture, traditions, religion and other environmental factors influencing on their decision to start-up (Ullah et al., 2016). In Norway, (Munkejord, 2017) argued, the motivating factor among female migrant entrepreneurs is because of difficulties in finding jobs within the Norwegian labour market. In addition, the author stated three more reasons in particular as follows, primarily because of the growth and feminization of rural immigration (Simard and Jentch, 2009). Secondly, it is because of the increase of (immigrant) women entering the labour market, some of them as business owners (Pio, 2007; Collins and Low, 2010; Ramadani et al., 2015; Ramadani, 2015). Thirdly, it is because of a gradually more favourable opportunity structure for ethnic micro, small and medium-sized businesses in various geographical spaces (Volery, 2007). Other motivational factors for migrants entrepreneurship include, several aspects related to the immigrants themselves such as education, generation, migration background, social capital as personal aspirations, as well as aspects related to the host country such as the economic situation, immigrant and labour market policies and spatial characteristics (Dana and Morris, 2007; Welter, 2011). Samaratunge et al., (2015) in a study of migrant entrepreneurs in Australia, the authors highlighted that entrepreneurship provides a way for immigrants to survive in their new homeland. It can be prompted by the difficulties faced in adapting and other forms of discrimination encountered or by demand for ethnic products and services with expanding ethnic communities. In Australia, a quarter of those who are self-employed are foreign born (Collins, 2008; Collins and Low, 2010). However, their findings indicated that, for these ethnic entrepreneurs, their entrepreneurial activity results from a dynamic match between local market opportunities and the specific ethnic resources available to them at the time of the founding. The self-employment decision was not prompted by a lack of human capital but an inability to use that human capital in alternative means of employment at specific points in time. A similar study shows that Online businesses have been identified as means of starting a business with limited resources, (Anwar & Daniel, 2016) for example, they obviate the need to rent or buy commercial premises (Anwar and Daniel, 2014; Van Gelderen et al., 2008). Also, study of American entrepreneurs finds the questions regarding motivation for self-employment were open-ended, giving the participants the chance to list as many issues as deemed necessary and relevant in their decision to start their business (Omar, 2011). All the participants were in total agreement that the mentioned motivational factors are the reasons that they entered self-employment or entrepreneurship. These factors include difficulties in finding a job, thus feeling at a disadvantage in the US job market. Difficulty in the previous job also was mentioned as a push factor; the lack of English skills was not, however, mentioned as a motivator for self-employment.

All the above literature indicated a strong motive for migrant entrepreneurs to venture into entrepreneurship in their host countries.

One more motivational factor could be highlighted as motivating factor for migrants' entrepreneurship. Skill set is a serious motivating factor to engage in entrepreneurship for everyone including migrant entrepreneurs. With the emergence of digital marketing and traditional educational qualifications among migrants increased, it impact their

entrepreneurial decision making processes. Based on this analogy, we borrowed a well crafted entrepreneurial capabilities based on their ethnicity found in host countries (Moremong-Nganunu, Ding, and Arenius, 2018).

Entrepreneurial capabilities vary among migrant entrepreneurs partly because of their origins and social networking in their host and host countries, these varies in terms of opportunity recognition, managerial innovation skills, service innovation skills and reactivity according to (Moremong-Nganunu, Ding, and Arenius, 2018).

Table 3. Level of entrepreneurial capabilities by ethnic group

Ethnic Group	Opportunity recognition		Managerial Innovative Skills		Service Innovative Skills		Reactivity	
	Low to medium	High	Low to medium	High	Low to medium	High	Low to medium	High
Arabian	52.0	48.0	68.0	32.0	60.0	40.0	60.0	40.0
African	43.3	56.7	55.2	44.8	49.3	50.7	50.7	49.7
Asian	35.5	64.5	45.2	54.8	48.4	51.6	41.9	58.1
South Asian	30.0	70.0	46.7	53.3	36.7	63.3	36.7	63.3
Total	40.5	59.5	53.6	48.4	48.4	51.6	47.7	52.3

Source: Rametse, N., Moremong-Nganunu, T., Ding, M. J., & Arenius, P. (2018).

Migrants skills set vary based on their origin and those variations are classified under opportunity recognition, managerial innovative skills, services innovative skills and reactivity. In all the criteria, South Asians have a higher index in opportunity recognition, service innovative skills and reactivity.

In summary, all the motivational factors are categorized into positive and negative factors. The positive factors been the perceived opportunities sported by migrants which elevate their entrepreneurship spirit such as professional skills, knowledge of the products and markets, IT skills, large population of the ethnic group, ease of doing business in the host country, economic stability, support from the host country, family and social networks (Chavan and Taksa, 2016; Song, 2013; Chu 2018; Eimermann and Kordel, 2017) while on the other hand, negative factors consist of conditions that push them to engage in entrepreneurship such as lack of jobs, discrimination at work places, lack of skill set for certain jobs, language barrier, segregation and lack of integration programs in the host country, high competitive labour market among others, (Bodolica & Spraggon, 2008; Omar, 2011; Billore, 2011; Panayiotopoulos, 2008 and de Vries, 2012).

Table 4. List of motivational factors for migrants entrepreneurship

Positive motivational factors for entrepreneurship	Negative motivational factors for entrepreneurship
Professional skills	Lack of jobs
Knowledge of the products and markets	Discrimination at work places
IT skills	Lack of skill set for certain jobs
Large population of the ethnic group	Language barrier
Ease of doing business in the host country	Segregation
Economic stability	Lack of integration programs in the host country
Support from the host country	High competitive labour market
Family and social networks	Gender inequality

Source: own study.

Challenges migrant entrepreneurs face in host countries

Having gone by the motives behind migrant entrepreneurs to migrant, this section highlight and present the difficulties faced by migrant entrepreneurs to integrate into their host countries. The past fifteen years indicated considerable interest in the area of international human resource that sprawl over in different categories but interlinked to migrants perceived problem both in workplaces and their business environments in the host country. Though migrant women contribute to the economic development (Bodolica & Spraggon, 2008) of both their host and home countries through remittances they send back home and the advancement of their skills, gender inequality that can be a significant factor in determining women migration. Another study on Indian immigrant entrepreneurs in New Zealand identified typical Indian ethnic minority traits such as adaptability, strong work ethic and predisposition for employment; and barriers such as discrimination and job dissatisfaction. However, the study also revealed country-specific characteristics such as a lack of enclaves, differing business drivers and a market orientation that matched a New Zealand context (de Vries, 2012). Other issues described based on the push factors as disadvantage theory (Light, 1979) points out that low wages, rampant unemployment, and underemployment, scarcity of the necessities of life, and challenging political climates which results in labour market discrimination can push ethnic groups to entrepreneurship. This approach sees immigrant's groups as being forced into self-employment given their low prospective returns in wage/salary work, because of discrimination, language barriers, incompatible education or training, and blocked promotional paths (Omar, 2011).

Similarly, Legal and political rights are considered as a significant issue preventing migrant entrepreneur's wiliness to integrate for instance, Panayiotopoulos's study of Turkish immigrant entrepreneurs in the European Union stipulates that continuity seem to lack citizenship and political civil liberties for the majority of Turkish speakers and their failure to influence the political system compared with other people. The change appears in the expansion in the number of enterprises and perhaps more significantly in the growing economic differentiation between enterprises regarding scale and purpose. One definite conclusion is that a lot of the entrepreneurs have broken out of the economic margins regardless of the political constraints faced by them (Panayiotopoulos, 2008) The legal issues are seen to predominantly affect migrant entrepreneurs in the host countries and limit their potentials to create and run businesses. This is seen to be visible mostly in the U.K, Germany, France and the US where the political framework has engulfed migration as politicians frequently using migration policies as a political tool pointing to migration factors as a threat to economic growth while convincing citizens to believe migration is a negative investment to their national economies.

Other findings show barriers for migrant entrepreneurs were depicted in a study carried out in Japan by (Billore, 2011), indicated significant deterrents faced by Indian women entrepreneurs in Japan are attributed to socio-cultural influences, lack of government initiatives and support facilities were identified. The analyses show that, although respondents began their stay in Japan as housewives, they shed their image with time, used their talents and diversified into a different role without sacrificing family duties, while also creating employment opportunities for both natives and immigrants.

The finding of the papers above has significantly affected migrant entrepreneurs across borders for centuries without no significant efforts by the host countries to solve those problems ones and for all. In the economic perspective, these barriers do not only affect migrant entrepreneurs but also hurts the global economy as those issues limit the opportunities for migrant entrepreneurs to start and run their business and consequently contributing to the economic development of their host and sending countries.

Although the literature has provided in-depth analysis on those issues, it is essential for the concern institutions to consider those structural changes in the affected countries to improve the conditions of migrant seeking entrepreneurship opportunities. As suggested, the practical implications of the study draw attention to problem areas where changes in governance structure and social acceptance can create a more viable environment for immigrant entrepreneurs in Japan (Billore, 2011). The selected publications prove the studies relating to migrant entrepreneurship have received significant attention covering a wide range of ethnic groups in also all the continents and migrant entrepreneurs of diverse cultural background, which reinstate the prominence, and importance of the study. Even though they highlight similar problems and opportunities exploited by migrant entrepreneurs, there are variations in focus and targets of each of the study analysed.

CONCLUSION

This paper aimed to highlight migrants' motivation to become entrepreneurs in the host country while looking at their motivational factors, challenges and their motives to venture into entrepreneurship in their host countries and subsequent social-economic contributions to their host countries. The research analysed covered a wide range of sample consisting of various ethnic groups living in the economic stable countries such as the UK, the US, The Netherlands, Australia, Canada, Germany, New Zealand and the UAE.

We found out that most of the studied groups of migrant entrepreneurs were mostly from the south-Asian countries such India, Bangladesh, China, Sri-Lanka, and Pakistan. Their motivation to start businesses, or take up the entrepreneurial role was partly dependent on their skill sets, knowledge of their chosen market, ethnic background and social networking ties, ease of starting and doing business in the host countries, educational qualification were mostly the positive motivational factors while on the other hand challenges faced such as lack jobs matching their capabilities, discrimination in work places, lack of language skills and high competition in the labour market.

Apart from the economic push-pull theories, we also discussed the theory of mind-embeddedness that helps to elaborate how migrant involvement in the migrant social network and the social-economic and politico-institution environment in their host countries plays a pivotal role in the economic development of their host countries. With this, we build the paper based on what the literature presented on migrant entrepreneurship motivations to engage in economic activities in their host countries.

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Contemporary tendencies of IHRM focus on Qatar

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Abstract

The aim of this paper is to shed light on contemporary tendencies in IHRM with focus on Qatar. It reviews specific relevant areas associated with this subject. They cover globalization in International Human Resources Management, contemporary tendencies in Qatar economy, the human resources in Qatar covering human resources in public organizations, local organizations and private organizations.

Keywords: contemporary, tendencies, human resource management, Qatar

JEL codes: 015

INTRODUCTION

The world has changed considerably in the last fifty years especially in terms of business in human resources management. This imposed internationalization of different areas including human resources management and labor laws (Poor, Engle, Blstakova, & Joniakova, 2018). This report discusses different issues. It first identifies globalization in International Human Resources Management. Then, it reviews contemporary tendencies in Qatar economy. After that it discusses the human resources in Qatar covering human resources in each of public organizations, local organizations and private organizations.

GLOBALIZATION IN IHRM

Human resources play an important role in managing organizations. They have been more globalized and internationalized particularly with the emergence and extensive growth of multinational organizations in the world.

First, it is significant to identify what human resources are. Human resources are associated with focusing on personnel functions by dividing the company according to a range of activities including training, recruitment of new employees, and orientation of personnel and provision of staff benefits. Human resources are defined as part of enterprise management. Human resources are concerned with the management and training of employees as one of the most important assets of work. Human resources are defined as the management that concerns the people working in the company. Human resources are keen to follow up the records of their appointment and the disbursement of their financial dues (English Oxford Dictionary, 2018). IHRM is associated with HR problems of multinational organizations in the foreign subsidiaries like expatriate management or issues that cross national boundaries, and relationships among HRM organizations' activities and foreign places where firms work (UK Essays, 2017).

Globalization in IHRM is associated with the international presence of organizations out of the borders of the country of the organizations such as the existence of multinational companies like Toyota Cars Company or Sony which have branches outside Japan. There are three stages of globalized IHRM. The first one is called pre-scientific until the beginnings of the 20th century like East-Indian Corporation. The second one extends from the beginnings of the 20th century until the end of the 1980s where there was an expansion of some companies like American companies subsidiaries outside the American borders. The third phase started from the 1990s as globalization became very strong especially after the spread of the Internet, modern technology and communication at larger, faster and smoother scales. This made it easier for companies to grow and have investments in different world countries (Poór, 2017).

Globalization has its impacts on International Human Resources Management. Human resources management at modern time faces many challenges and transformations, such as the labor problems that have arisen for multinationals, the increasing role of professional employment, automatic and modern technology, increased social responsibility, and labor or work capacity. Globalization is a phenomenon of a special nature that has reduced the limits of time and reduced geography. It ended a stage of human life, and began a completely new phase. This has led to the transfer of different types of enterprise management from a specific entity and situation to a completely innovated and modernized entity and situation. There are phenomena linked to globalization and its role in human resources, such as globalization of productive activity, globalization of financial activity and globalization of decision-making. With regard to the globalization of productive activity, it is very difficult for any entity to close away from global influences in the production of goods, services, or the manufacture of ideas. The globalization of financial activity has led to the integration and connection of money and money markets to each other and their direction to concentration, spread, expansion, and control. Globalization has had other effects, such as the globalization of decision-making centers, the exchange of centers among world powers, the change of global infrastructure structures and the broadening of its concept to

include new unknown links and attributes. In addition, there is freedom of movement of goods, services and ideas and their immediate exchange without barriers or borders between countries, and the freedom to transfer and invest all factors of production from labor and capital. The whole world is transformed into a small cosmopolitan village by the globalized information stream (Lucio, 2013).

CONTEMPORARY TENDENCIES IN QATAR ECONOMY

Associated with contemporary tendencies in Qatar, Qatar utilized globalization effectively in its modern economy through benefiting from international organizations in enhancing the national economy. Qatar's economy during the 18 years of the reign of Sheikh Hamad bin Khalifa al-Thani has seen great leaps that made it one of the most developed economies in the world. Throughout this period, economic policy was based on the principle of income diversification away from rents by investing in the so-called knowledge economy and expanding foreign investment. Qatar's gross domestic product (GDP) of just under \$ 29 billion in 1995, the year Sheikh Hamad took power, was worth \$ 192 billion last year. Within a decade, Qatar has turned from a small oil producer to the largest exporter of liquefied natural gas in the world with a production capacity of over 77 million tons per year, and made the mass production of gas the largest source of clean energy from gas liquids and petroleum derivatives. Although oil and gas constitute the backbone of the Qatari economy by 70% of government revenues, the Qatari authorities have in recent years adopted long-term plans to diversify the Qatari economy by focusing on the knowledge economy and employing natural wealth revenues in investments outside Qatar in the financial and industrial sectors, agriculture and other industries through the Qatar Investment Authority, a sovereign wealth fund with assets of more than \$ 100 billion. Qatar has also benefited from its huge gas and financial resources to create a base of heavy industries to diversify the economy away from oil and gas. It has established several factories in the field of steel, fertilizers and petrochemicals, usually joint ventures between foreign and Qatari companies. Following the country's bid to host the FIFA World Cup in 2022, the infrastructure and construction sector has seen a boom in the past few years, with Doha spending more than \$ 150 billion in infrastructure spending, whether in roads, stadiums or railways, or building a new airport and port. Qatar has become one of the largest and most investees abroad with \$ 215 billion in foreign investments and a fixed annual investment rate of \$ 40 billion. Qatar's investment policies extend to almost all continents, ranging from investing in football clubs to global economic institutions to a skyscraper in London and elsewhere (Aljazeera, 2013).

Qatar's economic policies have been reflected in its ranking in the United Nations Human Development Index. In recent years, it has ranked the list of Arab countries. It ranked 36th globally in the World Organization latest ranking. This is based on several indicators; most notably the progress of countries or their delay in health care, education, Qatar is the world's richest country in terms of per capita income of around \$86,440 according to the World Bank. The Qatari authorities have adopted a comprehensive strategy called Qatar Vision 2030 to serve as a roadmap for enhancing the country's economic, human, social and environmental achievements. The vision of this project is to achieve sound economic management, responsible exploitation of oil and gas, diversification Economic development (Aljazeera, 2013).



Figure 1. Qatar GDP between 2008 and 2016 (Trading Economics, 2017)

Source: own elaboration.

According to latest figures as shown above, Qatar GDP rose up to 206 billion dollars by the year 2014 and it is still high ranking to 152 billion dollars by the year 2016. It can be recognized how it rose from 115 billion dollars in 2008 to settle at 152 billion dollars in 2016 (Trading Economics, 2017).

HUMAN RESOURCES IN QATAR

Human resources in Qatar have been witnessing great changes and developments in the last few years. One key reason is that the country has been passing through prosperous economic development and dealing with different international organizations and partners. This has imposed to modernize the law of human resources in the country. Through its journey with country economic growth, the law of human resources witnessed updated in 2002, 2004, 2009, 2014 and 2016. It covers up to 31 articles associated with human resources management. For example, the article number one defined the role of each working person beginning from the minister and ending by any employee. It even defined the entities, administrations, salaries, bonuses, allowances, and incentives. According to the law, the employee is any person who holds a position according to the law articles (Hukoomi, 2016).

The provisions of the law apply to civil employees in ministries and other government agencies and public bodies and institutions. The law affirms the commitment of the state of Qatar to ensure that government agencies invest the best available human resources to achieve their objectives, develop the individual capabilities of their employees and provide a safe and fair work environment (Gulf Labour Markets and Migration, 2017).

Human Resources in Public Organizations:

The HR Law provides detailed information on all budgets related to job creation, job descriptions, classification criteria, recruitment processes, and recruitment and approval

procedures. Regarding recruitment and test period, in accordance with the provisions of the law, priority is for Qatari nationals in public organizations. If not available, then for the children of Qatari mothers and GCC people then other nationalities. New appointed employees must be 18 years old or above and have the qualifications which entitle them to occupy the matching positions. New recruited employees must pass through three months test period which can be renewed (Hukoomi, 2016).

Associated with training, the government organization must work to develop its human resources by providing suitable opportunities for training, development and rehabilitation, in order to develop and enhance their abilities and provide them with new skills that improve their performance of their jobs and qualify them to assume other responsibilities (Hukoomi, 2016). Training in the country is modernized and digitalized to be served fairly to all public organizations employees based on their training needs. There are different digitalized programs which work as platforms for the employees to choose the programs that meet their training needs. One of these programs is called *Mawared* which is an Arabic word that means resources. This program can be accessed by any employee who has a profile in the program regarding his or her background information, job description, job tasks, qualifications, experience and past training courses. Based on the employees training needs, the program helps them to suggest the most applicable and useful programs that suit their training needs. The program builds on the employee's past experience, training course and the current job description and training needs. Thus, some training programs are suggested for the employee to choose from. This helps the employee to improve his performance at the organization by having more knowledge and enhancing more skills relevant to job description and tasks (Mawared Portal, 2018).

As for performance evaluation, the government agency establishes a system of performance evaluation based on the performance of employees, their administrative units and the nature of their activities, in order to enhance individual achievements and team spirit. The employee may be given a copy of the performance appraisal report. The employee may complain to the manager within fifteen days from the date of his knowledge. The manager may grant an incentive bonus to the employee who provides excellent services, works, research or suggestions that help improve the working methods, increase the efficiency of the performance or save expenses, but not exceed the total monthly salary of the employee. The bonus is not awarded more than twice in the fiscal year (Hukoomi, 2016).

Associated with promotions, they should range between Grade 12 and excellent grade based on performance evaluation. At last two years have to be spent by the employee prior to each promotion. The manager has the authority to give distinguished and excellent employees exceptional promotions regardless the required period or qualifications as long as the employee is given excellent evaluation during the last two years (Gulf Labour Markets and Migration, 2017).

Moreover, there are rights and benefits. One is healthcare; the government organization provides health care to its employees and family members in accordance with the country health system. Another is vacations. The law specifies all types of leave that the employee is entitled to during his period of service, including periodic, casual, sick, special, academic, unpaid leave, etc. If the staff member is not able to carry out his full periodic leave, he / she must do at least half of the leave and transfer the remaining balance of the vacation period to the following year only. Another benefit is allowances. The employee is

entitled to the following allowances: social allowance (for the Qatari employee), housing allowance, mobility allowance, representation allowance and nature of work allowance in accordance with the regulations issued by the Prime Minister, special allowance, retention allowance, exceptional allowance, telephone allowance, overtime allowance, and furniture allowance. Another advantage is travel tickets. The government organization shall bear the official travel tickets for the employee in accordance with the conditions and regulations prescribed by the executive regulations of this law. The government agency shall bear the travel tickets of the non-Qatari employee who works under an external employment contract and the travel tickets of his wife and three of his sons under the age of 18 in the following cases. One is when he is appointed for the first time. Another is when performing periodic leave once a year. A further is at the end of service and leaves the country permanently. A non-Qatari employee is entitled to the value of travel tickets owed to him and his family in cash without requiring travel. Finally, end of service is when the employee is 60 years or due to resignation or dismissal on legal foundations. Finally, there is indemnity. A Qatari employee who has spent at least one year in service of the government organization is entitled to a service end benefit, which is calculated as follows: Basic salary for one month for each of the first five years of service, a basic salary of one and a half for each of the following five years of service, Two months for each year, which increased. As for the non-Qatari employee who spent at least one year in the service of the government organization, he shall be entitled to an end of service indemnity on the basis of one month's salary for each year of service up to a maximum of ten months, for the duration of his service in the country (Hukoomi, 2016).

Human Resources in Local Organizations:

Non-governmental local companies apply the HR laws in Qatar; however, they are not obliged to stick to the same conditions applied by public organizations. Local companies are owned and run by the local investors. The owner has the management and the HR role. He/she selects the job description and does the interview for the employees. The employee's salary is based according to his job description. Also, the owner decides the employee's salary. The local company is abided by the employment labor law which protects the employees. It is a must for any private local company to sign a contract with the employee upon which there is mutual agreement. Also, the employee has the right to get his/her annual vacations, salaries, and other rights.

However, while employees guarantee their rights in the public organizations, some violations are likely to take place in the local private organizations. Thus, there are laws which protect the rights of the employees not only by the Human Resources Law but also by other entities such as the National Human Rights Committee in Qatar and the Labor Office in the Ministry of Labor in Qatar. According to Al Meer (2015), the State of Qatar has paid great attention to the workers not only to protect their rights but to improve the standard of living and provide luxury and a decent life for them. The Department of Labor Relations in the Ministry of Labor and Social Affairs has important roles to protect the rights of labor forces in Qatar. The role of the Department is to receive and consider labor complaints which might be connected with differences in the contract of employment, such as wages, allowances for tickets, vacations, etc. The Department examines the complaint within one week of submission. Our policy is to try to resolve the problem amicably by calling the parties and listening to them. Failure of find a solution to be agreed on by the two parties

will lead to raise the complaint to judiciary. If the employee is found to have rights and that the employer rejects giving him his rights, the organization's transactions are suspended. However, most complaints are amicably resolved in the department.

METHODOLOGY

A qualitative approach was adopted in this study by interviewing two key management personnel working in a well-known private organization in Qatar. The first one is Mr. Mohammed Shaji, the Head of Human Resources Department in Fraser Suites Doha. Specific questions were raised in this interview particularly on the labor laws adopted by the private organizations, vacations, salaries, incentives, motives, and training programs. The second one is Mr. Nasser Al Malki, the Head of Professional Development in the Development and Labor Institute in Doha, Qatar. Questions were about the vision and policy of the development labour institute to develop HR and the similarity between private and public organizations to manage human resources. He was also asked about how globalization is applied to manage human resources and future expectations regarding human resources.

HUMAN RESOURCES IN PRIVATE ORGANIZATIONS

What is meant by private organizations in Qatar is the international organizations which have different branches or offices worldwide and Qatar is one of them. When interviewing the Head of Human Resources Department in Fraser Suites Doha Mr. Mohammed Shaji, he stressed that the hotel as a private organization in alignment with all private organizations in Qatar follow the Labour Law adopted by the government of Qatar in most of its practices and policies. However, there are slight variations. For example, while annual vacations in public organizations are 45 days, they are 30 days in private organizations. The salaries in the public organization in Qatar are given based on job category which has different levels; however, they are classified according to positions in private organizations. While in some private organizations salaries are competitive or higher than those which are provided in public organizations, they might be lower than the salaries in public organizations in some other private organizations. Incentives and allowances are also provided by private organizations associated with each type of business and classifications.

Furthermore, private organizations also follow the Labour Law applied in the State of Qatar. However, the types, programs and hours of training are provided based on the training requirements for each employee. For example, in a hotel like Fraser Suites Doha, training programs are tailored based on the hotel needs. Examples of these programs are Hospitality Orientation, Work Safely, Basic Food Hygiene, Basic First Aid, Handling Guest with Special Needs, Improving Guest Experience, Supervisory Skills Development, Leadership Training, and Global Sales and Marketing Training.

However, there are some international organizations such as oil organizations as Shell, TOTAL, and ExxonMobil apply some laws which are similarly adopted in all the branches of these organizations worldwide. Yet, such laws are ensured not to be contradictory to the Qatari labour laws regarding different issues associated with the employees' rights such as working hours, vacations, salaries and incentives. All in all, the private organizations follow the labor laws adopted by the government of Qatar regarding the

employees' rights. However, there are variations which are subject to the nature of the organization and the nature of work and employees' positions. Yet, such variations have to be ensured not to be contradictory to the labor laws in Qatar (Qatar Labor Law, 2017).

Regarding the vision of major organizations in Qatar like the Development and Labor Institute in Doha, Nasser Al Malki, the Head of Professional Development and a trainer at the institute stressed that it is aimed to develop qualified human resources in Qatar to achieve the goals of the Qatar, especially Qatar National Vision 2030 which establishes for human, economic, social and environmental development. This has been done through attracting and developing qualified people and building up an organizational culture featured by commitment and continuous development.

Regarding the similarities and differences between private and public organizations regarding managing human resources, it is mainly in the tasks of similar departments that match with reference to managing human resources, especially in terms of development. However, in other terms like vacations, salaries, work days per week, the public organizations are more attractive to human resources. For example, in public organizations, vacations are 45 days per year and there are only seven hours work per day and five working days per week. However, in private organizations, annual vacations are only one month, and there are eight working hours per day, and six working days per week.

With reference to globalization standards in human resources management, according to Mr. Nasser Al Malki, up to 60% of these standards are applied in terms of employing expert expatriates from different nationalities with global experiences and qualifications. Also, teamwork is applied and enhanced among workforce of different nationalities to achieve integrated work in projects. As well, there is a training to develop human resources to working forces and it is free by public organizations like the Ministry of Development and Labor. This helps them to get promoted to higher positions they are trained to hold. In addition, there are employees and students who are sent abroad to join international organizations that qualify them to be more experienced and qualified to hold the positions they are assigned to.

PARTICULAR CHARACTERISTICS OF HRM OF FOREIGN OWNED FIRMS IN QATAR

According to Alamry (2018) human resources management is particularly important in international organizations operating in Qatar and in other countries for several reasons, including:

1. The breadth of geographical area to be managed, which requires highly qualified manpower, often able to make important key decisions in isolation from the senior management of the enterprise.
2. The different social and economic systems in the regions in which international enterprises operate, which requires a management capable of adapting the organization's conditions and policies according to these variables.
3. The investment of international enterprises in different areas of the world expose the company to many of the risks of investment in these areas (for example, nationalization and confiscation). Therefore, these international institutions must have administrations capable of predicting political and economic trends and trying to extrapolate their results and their impact on the organization.

4. For all of these reasons, international multinational companies pay great attention to planning their manpower needs in advance and in time, as is the case with an international company such as Shell Organization that plans its manpower requirements over a period of fifteen years in advance (Alamry, 2018).

Just few years ago, it was a must for any foreign organization interested in working in Qatar to be given only 49% of foreign ownership and 51% of national ownership. However, this doesn't still apply to all organizations now as a change has been made in this regard. In January, 2018 the Qatari cabinet approved a draft law submitted by the Ministry of Economy and Trade that allows foreign investors to own 100% of most economic sectors. Qatar's economy and trade minister Sheikh Ahmed bin Jassim bin Mohammed al-Thani said the project would help foreign capital flows, boost economic development and raise Qatar's level of global economic indicators. The project depends on the strength of government spending to attract foreign investment, increase tax revenues, and protect domestic and foreign investors. The new, which regulated foreign investment, includes a series of investment incentives that include allocating lands for investor to establish investing projects through use and lease. It also allows the import of machinery and equipment for the establishment or operation or expansion. Imports are exempted from income tax. The incentives also include exempting the project in the industry from customs duties on the imports of raw materials and partly processed, which are not available in local markets. Under the incentives, investments are not subject to expropriation either directly or indirectly, unless for public benefit and in a non-discriminatory manner. The investor also has the freedom to transfer his investments, which include: investment returns proceeds of sale or liquidation of investments in whole or in part, proceeds from settlement of investment disputes and any compensation he deserves. It is noteworthy that the percentage that Qatar previously allowed foreigners to own in the projects was not more than 49% (Aljazeera, 2018).

According to Lee (2018) , the following table shows all the features given to foreign companies working in Qatar.

Moreover, foreign companies operating in Qatar are experiencing steady growth. The growth of these companies is expanding and there is great competition among them. Although Qatar's labor law obligates foreign companies to apply the Qatar Human Resources Law in many respects, these companies have special powers and privileges to apply certain laws applied by them in many countries they invest in, especially if such laws do not conflict with labor laws in Qatar. For example, Qatar Labor Law requires institutions operating in Qatar to commit to eight-hour staff days. However, the nature of work in some foreign institutions requires the employee to last 12 hours. The Human Resources Law in Qatar does not prevent some staff members from working for 12 hours a day if they are satisfied with the company and the employees and if the extra hours are calculated as overtime hours to be paid to the employee at his satisfaction. As well, foreign companies in Qatar focus on sustainable labor costs, highlighting human resources departments. Globally, the best practices of human resources are those that focus on talent development, growth and innovation. So the focus on executive talent, whether under the nomination or evaluation or training, has become necessary to achieve business acceleration and organizational goals. For international companies operating in Qatar, the main reasons for maintaining and engaging staff are related to performance

management and rewards. Performance assessment, whether annual or quarterly, is a standard practice. Most foreign companies operating in Qatar currently use a form of performance appraisal, ranging from simple schemes to complex behavioral assessment schemes, an opportunity to look at the larger picture and seriously consider management, business and personnel objectives (Moody, 2016).

Operations and logistics	Joint venture	100% foreign-owned company	Free zone company	Branch
Doing business in Qatar permitted?	Yes	Yes	Yes	Yes
Allowed to sign contracts with local Clients?	Yes	Yes	Yes	Yes
Must have a contract signed before Qatar registration?	Yes	Yes	Yes	Yes
Allowed to invoice local Clients?	Yes	Yes	Yes	Yes
Clients must deduct tax from payments?	No	No	No	Yes
Can rent local office premises?	Yes	Yes	Yes	Yes
Allowed to import raw materials?	Yes	Yes	Yes	Yes
Allowed to export goods?	Yes	Yes	Yes	Yes
Accounting and tax				
Corporate tax rate?	10%	10%	10%	10%
Corporate bank account?				
Statutory audit always required?	Yes	Yes	Yes	Yes

Figure 2. Comparison between different entity types of foreign companies in Qatar (Lee, 2018

Source: own elaboration.

WHAT IS EXPECTED TO BE IHRM IN THE FUTURE?

There are directions in HRM which comply with globalization requirements. The successful organizations have been adopting more globalized HRM policies that will lead to adopting shared knowledge including thoughts, and developing new approaches of HRM. Also, such directions have led to contemporary transformations in HRM through:

- Transformation from the concept of personnel to HRM.
- Shift from managing personnel as individuals to managing them as capital.
- Change from executive role to administrative personnel to the consulting role to manage human resources.
- Shift from traditional role to manage personnel to strategic role to manage human resources.
- Transfer from managing individuals as isolated people in specific entities to managing HR as a team with integrated teams locally, regionally, and internationally.

In this context, human resources management is going to change to a strategic role based on HRM. This includes developed skills, competences, and knowledge that lead to competitiveness and enhanced awareness to adopt more strategic thoughts and concepts.

According to Mr. Nasser Al Malki, there are future tendencies to attract qualified national human resources that contribute to achieving Qatar National Vision 2030. There are also efforts to update the current training programs to be more globalized and standardized to develop human resources in both private and public sectors. As well, it is aimed to attract special leadership skills that are able to create positive culture that harmonizes with global standards in human resources management.

However, there are still challenges to HRM, particularly competitive, technological and cultural ones. Regarding competition, there are challenges how to attract new employees with knowledge, professional skills and competences on a globalized scale. As for the technological challenges, they include but are not limited to ensuring the availability of e-learning and training all over the world, and resources and training facilities required for that. A last but not least challenge is cultural, especially by attracting and maintaining staffs from different nationalities who adopt shared values for organizations and in harmony and compliance with each other despite different cultures, languages, beliefs and political attitudes (Ghania and Yemina, 2016).

CONCLUSIONS

This paper addressed three key areas: globalization in ITRM with focus on Qatar, contemporary tendencies in Qatar economy, and human resources in all types of organizations in Qatar. It has been concluded that Qatar apply competitive human resources management system to international standards. As Qatar works with multinational organizations and employs hundreds of thousands of employees from different nationalities, it adopts the latest and most globalized labor laws that comply with international labour laws. All companies in Qatar have to abide by the country labor laws despite the fact that some variations may take place based on the nature, type and field of each business.

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Venture capital and exporting: Some evidence from Visegrad Group countries and implications for Poland

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Abstract

Venture capital funds are considered an innovative source of financing for small and medium-sized enterprises (mainly those in a seed or startup stage). The main point of these funds is to provide the firm with capital in exchange for shares. The research problem taken up in the article concerns the identification of the impact of venture capital funds on the development of businesses' exporting in the Visegrad countries. The aim of this article is to present the results of the research on the correlation between the share of venture capital funds in GDP and the export growth in the Visegrad countries. It turns out that in the case of Poland there is a strong correlation between export growth and the share of venture capital funds financing early stage ventures in GDP.

Keywords: export, internationalisation, Visegrad Group, venture capital, financing

JEL codes: L26, F23

INTRODUCTION

Venture capital (VC) funds are considered an innovative source of financing for small and medium-sized enterprises (SMEs), mainly those in the seed or the startup stage. The main point of these funds is to provide the firm with capital in exchange for shares. Additionally, the subject which invests in a given venture participates actively in the ongoing

development of the financed firm (Clercq, Manigart., 2007; Cumming, MacIntosh, 2003; Metrick, Yasuda, 2011). After a certain period of time, fund withdraws the capital committed and thus realizes a profit or loss from a given venture. There is a relatively small amount of research undertaken on the venture capital backed firms' internationalisation.

The research problem taken up in the article concerns the analysis of the impact of venture capital funds on the development of businesses' exporting in the Visegrad countries (V4 consists of the Czech Republic, Hungary, Slovakia and Poland). The aim of this article is to present the results of the research on the correlation between the share of venture capital funds in GDP and the export growth in the Visegrad countries. It must be stated that this paper is a very first step in the research advancement and it should be treated still as work in progress.

The article consists of two parts: the theoretical and empirical ones. The theoretical part discusses the aspects related to the essence of venture capital as a form of financing, as well as refers to research on the internationalisation of firms financed by these funds. The empirical part, based on the data obtained from international sources, calculates the correlation between export growth and the share of venture capital funds in GDP in each Visegrad country by using the Pearson correlation coefficient.

BASIC TERMS FOR THIS STUDY: VENTURE CAPITAL AS A FORM OF FINANCING

The demand for capital to finance innovative undertakings appeared for the first time in the 19th century. At that time, the demand for this type of financing was related to the ongoing industrial revolution in Western Europe and the United States (Węclawski, 1997). Firms had to face with numerous financial problems, therefore entrepreneurs were looking for alternative (external) sources of financing. During that time, the capital was mainly provided by rich families as well as banks (Węclawski, 1997). Currently private equity capital is more and more popular among new ventures and instant exporters (Kazlauskaitė, Autio, Šarapovas, Abramavičius, Gelbūda, 2015), and there are various types of such capital, for example (i) venture capital, (ii) various buy-outs, (iii) mezzanine capital, (iv) growth capital or (v) distressed investment (Rymarczyk, 2017, pp. 42-44).

In the selective literature review we are able to find plenty definitions of venture capital. Kowalczyk (1991) describes it as a high-risk capital. In turn Tamowicz (1995) considers venture capital funds to be medium- and long-term capital, which is invested mainly in various types of equity securities (ownership) or quasi-equity (concerns companies that are not listed on the stock exchange) in order to sell them at a higher price. Generally speaking, it can be concluded that the capital injected into a given firm has an equity share nature, but not a credit nature (debt), which results in the firm's financing subject becoming its co-owner at the same time (Tamowicz, 2004).

Two American economists, Aizenman and Kendall (2012), describe venture capital in similar way to Tamowicz (1995), but with the difference that it is mainly invested in private firms with high potential growth. Other American scientists Fenn, Layang, Pays and Johnson (Ivashko, Chulipa, 2016) identify venture capital with financing equity of small innovative enterprises, which have considerably greater potential from the very beginning of their activity (mainly in the early stage of the firm's development). This stands in line with Murray's study (1994), concluded in mid-1990s, stating that venture capital funds were particularly interested in high-growth firms (often in the seed or startup

stage) thereby it is not easy to obtain reliable information on their activities. Azarmi (2016), Wright, Lockett et al. (2002) present the same perception as Murray.

Among Polish researchers, Latusek-Jurczak (2013) defines venture capital as a high-risk capital and an important source of financing for new ventures. In turn, Bannock and Doran (1991) feel that venture capital are the main source of financing for small and medium-sized enterprises.

A very general definition of venture capital fund is proposed by EVCA¹. According to its definition, venture capital is, strictly speaking, a subset of private equity and it refers to equity investments financing mainly ventures related to the startup, development or expansion of an enterprise (EVCA, 2007, 2017).

The great evolution of research on venture capital funds took place at the turn of the 20th and 21st century. Bergemann and Hege (1998) called venture capital the main source of startups funding. In many countries, mainly the United States, this capital finances activities at the frontier of science and knowledge. Due to their innovative nature, venture capital projects are inherently highly vulnerable to a high risk of failure. Several years later, empirical studies by Hellmann and Puri (2002) showed that companies financed by venture capital are more susceptible to staff changes than those which were not financed by such capital. According to these researchers, the founders of venture capital backed firms are pushed into the background, but the role of managing directors is taken over by people from outside the firm (often directly linked to the venture capital funds that have invested in a given firm). According to Wach (2005), attracting venture capital investments depends on a stable group of small and medium-sized enterprises, which generate more innovative ideas.

Landström (2007) argues that venture capital funds are an important link in promoting the growth of innovative firms, but Bygrave and Timmons (1992) identified two types of venture capital in their research: classic and merchant.

Venture capital funds invest mainly in small and medium-sized enterprises. With this support, they can develop their activities. Furthermore, they include financing at different stages of the undertaking's development such as (Rosa, 2008):

- **Seed stage** - venture capital funds are reluctant to finance projects at this stage of development, mainly due to the high level of the project's uncertainty.
- **Startup stage** - Venture capital funds are keen to invest in startups, their product development and initial marketing plans. At this development stage, the firm is experiencing difficulties in obtaining a bank loan because of its faint credit background.
- **Early stage** - the firm lacks the funds to enhance its position on the market and for further expansion. Venture capital funds investments are particularly concerned on enterprises at this stage of development, mainly due to the fact that a well-targeted investment offers great opportunities to significantly increasing value of an enterprise in a short period of time.
- **Late stage** - this is a stage in which the firm's value has already increased. At this stage of development, financial resources are usually needed for large investments. Nonetheless, these companies have rather limited access to venture capital.

¹ The European Venture Capital Association (EVCA) was founded in 1983 and is located in Brussels. It represents the concerns of the European private equity sector by, among others, standard setting and researching the wider private equity sector (including venture capital). In 2015, the organisation changed its name to Invest Europe.

Investments in early-stage are considered to be a classic form of venture capital. These funds invest in young enterprises by introducing a professional system of managing a given venture, covering all management cycles (including the most basic ones). At the seed stage, the role of VC funds is limited to helping to develop a business idea before a product is introduced to the market, while at the startup stage, the role of VC funds is limited to helping to consolidate the market position of a given project. Early-stage projects are highly dependent on external resource providers due to the limited nature of their internal resource bases (Lockett, Wright, Burrows, Scholes, Paton, 2008).

PRIOR STUDIES LINKING VENTURE CAPITAL AND INTERNATIONALISATION

Various empirical studies show that small and new enterprises may face problems with internationalisation mainly due to the lack of both human and financial capital resources (Bilkey, Tesar, 1977; Bonaccorsi, 1992; McDougall, Oviatt, 1996; Oviatt, McDougall, 1994; Westhead, Wright, Ucbasaran, 2001). Unfortunately, a handful of studies have been carried out on the internationalisation of venture capital backed companies. One of the first studies which concerns this issue took place in 2005, when a team of researchers George, Wiklund and Zahra (2005) analysed the importance of venture capital from a variety of perspectives. Researchers found out that equity ownership can influence the management's attitude towards the risk of internationalisation. In order to examine this relationship, they took into account the impact of internal and external equity ownership on the scale and range of internationalisation. Researchers discovered that external equity ownership is positively related to the range and scale of internationalisation measured by the number of countries in which a firm establishes export relations and the percentage of companies doing business on an international scale (George et al., 2005).

In turn, Zahra, Neubaum and Naldi (2007) examined the impact of the presence of venture capital in the firm's ownership structure on internationalisation. It turns out that with the increase of the share of venture capital in the ownership structure of the enterprise (measured by the share of venture capital in the total capital) the activity for building knowledge and improving technological assets increases. Therefore it can be concluded that the presence of export-oriented venture capital can increase the activity of enterprises in the context of generating and acquiring international knowledge.

Another study on the internationalisation of venture capital backed firms was carried out by a team of researchers from the University of Nottingham (UK). They analysed the export intensity of these companies depending on the development stage of the companies - early stage (including seed and startup stage) and late-stage (Lockett et al., 2008). They had put forward several hypotheses regarding the export activity of venture capital backed firms. In general, the researchers claim that the export intensity is the result of a strategic decision and is influenced by both the intellectual and financial capital of the firm. In their research, scientists also point out to the role of management as one of the sources that can influence the intensity of export and allocation of resources in the venture. Venture capital funds with internationalisation experience may be able to help the firm's management, in which they have invested, to select an appropriate strategy for entering foreign markets, which in turn will contribute to the growth of exports of these ventures (Lockett et al., 2008).

The team, consisted of scientists from the United States, has studied the impact of the knowledge and reputation of venture capital funds on the startups' internationalisation. Fernhaber and McDougall-Covin (2009) highlighted the importance of international knowledge, which can reduce both the cost of internationalisation and the reputation, that can benefit startups to operate worldwide.

Based on the review of prior studies in various parts of the globe, it is worth to verify the research hypothesis:

H0: There is a strong correlation between export growth and the share of venture capital funds financing early stage ventures in GDP of all four Visegrad countries.

In order to operationalized this statement was divided into four detailed hypotheses such as:

H1: There is a strong correlation between export growth and the share of venture capital funds financing early stage ventures in GDP in the Czech Republic.

H2: There is a strong correlation between export growth and the share of venture capital funds financing early stage ventures in GDP in Hungary.

H3: There is a strong correlation between export growth and the share of venture capital funds financing early stage ventures in GDP in Poland.

H4: There is a strong correlation between export growth and the share of venture capital funds financing early stage ventures in GDP in Slovakia.

RESEARCH METHODOLOGY: DATA AND METHOD

Data

Two main variables were used based on the secondary statistical data of OECD (2017) and the World Bank (2017) for the period of 5 years (2012-2016). These are:

1. **VCS** – share of value of money invested by venture capital funds in startup entrepreneurship in relation to GDP (in %),
2. **EXPG** – exports growth of a given country in relation to the previous period (in %).

Table 1. Input Data

Country		2012	2013	2014	2015	2016
Czech Republic	VCS	0,00008	0,00124	0,00189	0,00095	0,00241
	EXPG	4,27917	0,18694	8,65037	7,70282	4,27196
Poland	VCS	0,00138	0,00167	0,0028	0,00308	0,00394
	EXPG	4,58426	6,08237	6,67504	7,69389	9,01675
Slovakia	VCS	0,00000*	0,00000*	0,00226	0,00792	0,01232
	EXPG	9,30652	6,66477	3,65877	7,00066	4,76372
Hungary	VCS	0,05728	0,00916	0,0229	0,01997	0,02592
	EXPG	-1,79396	4,18262	9,8003	7,67055	5,78233

Legend: VCS - share of value of money invested by venture capital funds in startup entrepreneurship in relation to GDP [in %]. EXPG - exports growth of a given country in relation to the previous period [in %]. * Due to lack of data, it was assumed that in a given year venture capital funds did not finance any projects.

Source: based on data from the OECD "Entrepreneurship at a Glance" (different years) and the World Bank (different years) reports.

METHOD

For the purpose of this article, a correlation was calculated between the share of venture capital funds financing startups in GDP and the average growth of export levels in the Visegrad countries.

The statistical analysis of the interdependencies of the characteristics is based on the study of the properties of multidimensional distributions. Interdependencies can also be limited to the study of two features (Sobczyk, 2010), and then we are dealing with, among others, the linear correlation of Pearson.

Pearson's linear correlation coefficient can be used when measuring both the force and direction of a rectilinear compound, which includes two measurable features (Sobczyk, 2010). The distribution resulting from the analysis of two features is called two-dimensional distribution. In order to describe the aforementioned distribution numerically, we need to use measures that characterize both the total dispersion of value traits and the aggregation of individual points around a specific curve (Ostasiewicz, 2011).

A correlation coefficient shall be used to measure the concentration of points around a particular line:

$$r_{xy} = \frac{Cov(x, y)}{s_x s_y} = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{\left(\sum_{i=1}^n (x_i - \bar{x})^2 \right)^{\frac{1}{2}} \left(\sum_{i=1}^n (y_i - \bar{y})^2 \right)^{\frac{1}{2}}} \quad (1)$$

where:

\bar{x}, \bar{y} - arithmetic averages of the variables „ x ” i „ y ”;

s_x, s_y - standard deviations of the variables „ x ” i „ y ”.

The correlation coefficient shall be within the range: $-1 \leq r_{xy} \leq 1$. If $r_{xy} = 1$ (or -1), it means that there is an excellent positive (negative) correlation between the characteristics, and if $r_{xy} = 0$, this means that there is no correlation between the characteristics.

EMPIRICAL FINDINGS AND DISCUSSION

Correlation between export growth rate (EXPG) and share of venture capital as part of GDP (VCS) were calculated and the results of the analysis are presented in Table 2.

The results presented in Table 2 show that in the analysed years (2012-2016) the correlation between the growth of exports and the share of venture capital funds in GDP is very strong in the case of Poland. The coefficient of determination amount is 92.51% for Poland, but for Hungary, Slovakia and the Czech Republic R-square coefficients were accordingly 52.59%, 15.83% and 1.74% in the case of other Visegrad countries.

The survey carried out in 2016 by the Polish Private Equity and Venture Capital Association in cooperation with KPMG consulting firm shows that nearly 60% of the surveyed firms financed by private equity funds (which mostly include venture capital investments) are expanding abroad (KPMG, 2016). It is worth mentioning that the main shareholders of

existing venture capital funds in Poland are mainly foreign investors (including the European Bank for Reconstruction and Development), and to a lesser extent the state budget.

Table 2. Output Data in the correlation analysis between export growth and the share of venture capital funds in GDP in the years 2012-2016 in the Visegrad countries

Country	EXPG_vs_VCS	
	Pearson coefficient	p-value
Czech Republic	0,1319	0,832
Poland	0,9618*	0,009
Slovakia	-0,3979	0,507
Hungary	-0,7252	0,166

Legend: VCS - share of value of money invested by venture capital funds in startup entrepreneurship in relation to GDP [in %]. EXPG - Exports growth of a given country in relation to the previous period [in %]. R-square – Coefficient of determination.

Source: own calculations based on the data presented in Table 1.

CONCLUSIONS

Summary of the findings

Venture capital funds are the main source of funding for innovative ventures. In Europe, the market for these funds is different from the one appearing in the United States. In the so called old continent, venture capital finances companies in early stages of development, while in the United States they finance companies that already have great experience (late stage of development) . In Poland, venture capital investors come mainly from abroad (e.g. the European Bank for Reconstruction and Development). In Poland, venture capital funds engage in international ventures - mainly by developing exports of the financed firms. Hypotheses has been verified in Table 3.

Table 3. Hypotheses verification

Hypotheses	Verification
H0: There is a strong correlation between export growth and the share of venture capital funds financing early stage ventures in GDP of all four Visegrad countries.	not confirmed
H1: There is a strong correlation between export growth and the share of venture capital funds financing early stage ventures in GDP in the Czech Republic.	not confirmed
H2: There is a strong correlation between export growth and the share of venture capital funds financing early stage ventures in GDP in Hungary.	not confirmed
H3: There is a strong correlation between export growth and the share of venture capital funds financing early stage ventures in GDP in Poland.	confirmed
H4: There is a strong correlation between export growth and the share of venture capital funds financing early stage ventures in GDP in Slovakia.	not confirmed

Source: own study.

Research limitations

As each empirical study, also this research is not free of its limitations. First, the analysed period was limited only to 4 years (2012-2016). Second, it was used only one dependent and one independent variable, nevertheless it was due to the availability of data. It is

needed to include other variables, especially these moderating ones such as the entrepreneurship ratio or availability of external financing forms. Third, the linear correlation does not confirm the impact, but the relation only, so the next step should implement regression analyses.

Direction for further studies

At present, there still few research studies exploring the export of firms financed by venture capital funds, and thus this topic is still uncovered. Therefore, it seems justified that the next steps for the research should be to analyze the aspects related to the international involvement of the financed firms in order to get better understanding of the phenomenon of strong dependence of exports on venture capital funds in Poland.

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Knowledge-intensive exports of CEE and developed nations – driven by foreign or domestic capital?

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Abstract

Knowledge-based economy became the prevailing paradigm of the nations' development and thus their competitive advantage foundations. Important role in the international recognition of country development is the growth of knowledge-intensive exports. Studies show that in the most developed nations high-tech exports plays crucial and rising role. As a result developing nations should maximize their efforts to increase exports of the knowledge-intensive products to follow the pattern of developed countries. However, growth of high-tech exports is often driven not by domestic resources but by foreign capital. The aim of the article is twofold. First, to present the growth of high-tech exports in CEE countries in comparison to developed countries. Second, to analyze what is the involvement of foreign capital in high-tech exports with the sub-industry breakdown. To perform a study research sample consisting of total 14 nations was formed. Analysis referred to the 2007-2015 years. Data derived from the Eurostat database (NACE Rev. 2 as high-tech industry classification).

Keywords: knowledge-intensive exports, high-tech, foreign capital, knowledge-based economy, CEE nations

JEL codes: F18, O14

INTRODUCTION

Knowledge-based economy became the dominant paradigm in the theory of economic development that emerged in the 1980s (Harris, 2001). Moreover, since the early 1990s, there is observed a strong orientation on the economic development which is based on innovation and high-technology, both in developed and developing economies. According to OECD (1996), knowledge-based economies are economies which are directly based on production, distribution and use of knowledge and information, with an important role given to information, technology and learning in economic performance. In comparison to traditional industries, high-tech industries require better employee skills, higher education, higher R&D investment and more intensive knowledge and technology. Researches (Dorfman, 1983; Huggins, 2004) suggest that the development of high-tech industries contributes to the promotion of the regional and national economic prosperity. Knowledge-based economy is product of economic globalization, market competition and increase in the flows of information. Major capital of organizations are not only equipment, material and physical assets, but it is also (or first of all) knowledge (Jafari, Akhavan, & Akhtari). According to Landvall (2000), in the knowledge-based economy the main attention would be driven to creating knowledge, new products and services and to use human intellectual capacity to create new ideas (Mortazavi & Bahrami, 2012). As Powell and Snellman (2004) state, the products and services of a knowledge-based economy are based on knowledge-intensive activities that consequently lead to the development of technology and science, as well as its rapid obsolescence (known as the process of shortening the product life-cycle). Therefore the key component of the knowledge-based economy is a greater dependency on intellectual abilities than on physical inputs or natural resources. As Stiglitz (1999) states knowledge and information are the main productions of today's economy. In these circumstances, growth based on knowledge-intensive industries, fostered by investments in a broad range of knowledge-based capital, is crucial to increase long-term living standards (OECD, 2013). As a result driving forces, such as increase in the knowledge intensity of national economy, make it inevitable to move towards knowledge based economy (Houghton & Sheehan, 2000). Specifically, adopting the crucial role of knowledge-intensive industries as the base for growth of knowledge-based economy has resulted in increased public policy attention for science, technology and innovation (Smith, 2002). Similarly states Clarke (2001) who argues that notion and further analyses of knowledge-based economy have become a vital subject in the discussion concerning nations' economic development and public policy.

One of the international recognition of a nation shift towards knowledge-based economy are the increasing values of high-tech exports¹. As the country abilities to produce and find customers abroad grow up, macroeconomic technology indices should reflect that positive trend. There may be several reasons for that: modernization, FDI inflow, increase of R&D expenditures, favorable law enhancing innovativeness or general public policy frameworks aimed at boosting country technological level. Empirical data indicate that the growth of exports of high-technology products significantly surpasses

¹ In this paper Author associates the term of high-tech exports with knowledge-intensive exports and will use these two notions in the article interchangeably.

the average growth of trade in recent years. As a result share of high-tech products in total exports and trade grows (Minska-Struzik & Nowara, 2009). However, important question arise: to which extent rising high-tech performance in exports is attributed to national or foreign entities?

The aim of the paper is twofold. First, to state, if in CEE nations high-tech exports with the sub-categories division is performed mostly by domestic or foreign enterprises. Second attempt was to compare the ratios of foreign capital involvement in CEE and developed nations.

The research method adopted for this study are: comparative analysis and tools of descriptive statistics.

The structure of this paper is the following: Section 1 is introduction, Section 2 provides the literature review and data on the role of high-tech exports in domestic economy. Section 3 sets out the methodology used in the study. Section 4 outlines the results which is followed by Section 5 pointing to conclusions and limitations of the study, along with the future lines of research.

LITERATURE REVIEW

Gripsrud (1990) described export intention as the motivation, attitude, beliefs, and expectancy about export contribution to the enterprise growth. Nowadays, in most countries a common objective is to find ways to increase exports. This can be achieved by encouraging exporting firms to export more or by inducing non-exporters to start international sales. Firms involvement in export activities not only increases the performance of growth-oriented domestic firms engaging in export but also the economic performance of a country (Julian & Ali, 2009). Thus the growth of a nation's exports has positive effects on individual firms as well as on the development of the entire economy (Julian & O' Cass, 2004). Exporting is of crucial economic importance to nations and their firms highly involved in international sales, as exports improve profitability, capacity utilization, trade balances and increase employment (Ahmed, Julian, Baalbaki, & Hadidian, 2006). According to Terpstra and Sarathy (1994) exporting can help individual firms to achieve a competitive advantage, improve their financial position, increase capacity utilization and raise technological level. Additionally, Sullivan and Bauerschmidt (1990) defined other motives for exports that are: capability to easily modify products for external markets, increasing competition in the domestic market, new information about sales opportunities in foreign markets, adverse domestic market rules, opportunity to decrease the power of domestic customers, management expertise and providing a hedge against an economic slowdown. Moreover increase in international marketing experience (which is an inevitable part of international sales) could improve domestic competitiveness, possibility to extend the domestic product life cycle, export incentives offered by home country, opportunity to reduce unutilized inventories, short-term profits, chances to use obsolete equipment outside the country (according to Posner imitation lag theory), reduction of tariffs abroad, availability of profitable logistics (to ship products to foreign markets more effectively), decline in the value of currency relative to foreign markets (thus increasing the turnover in domestic currency), eased export regulations in foreign countries and the receipt of unsolicited orders from foreign customers. Growing globalization of the world economy and the widespread approach that increased exports positively impact society has stimu-

lated research in this area. As domestic economies are under the strong influence of global changes and technological progress, attention has been put to the analyses stressing the importance of boosting exports of knowledge-intensive goods and services. According to Minska-Struzik (2012) exports stimulates the process of technology diffusion and increases the productivity growth because of the *learning by exporting* effect. Great values and shares in total exports of high-technology reflect from one hand the shift to the knowledge-based economy (as a contemporary development paradigm) and technological progress in the entire economy, and from the other hand enable to achieve competitive advantage of a nation. Development of knowledge-based economy and increasing high-tech exports should be crucial for CEE countries which after the years of successful transformation, as a next step in the process of catching-up developed nations should target their efforts at fostering high-technology firms and industries. As Ratajczak-Mrozek (2008) suggests knowledge-based enterprises are perceived as main factors of the economy growth and development. The ISIC rev. 3 OECD (2011) standard states that high-tech industries include five industries: pharmaceuticals, aircraft and spacecraft, electronic and telecommunication equipment, computers and office equipment, medical equipment and meters². In the table 1 there have been presented absolute values of high-tech exports in CEE countries during the years: 2007-2015.

Table 1. High-tech exports in CEE nations (mln EUR, 2007-2015)

Nation	2007	2008	2009	2010	2011	2012	2013	2014	2015	Δ%
Bulgaria	:	:	:	:	:	794	:	869	1 069	34,6%
Czech Republic	12 628	14 115	12 331	16 123	19 193	19 665	18 431	20 168	22 030	74,5%
Estonia	628	638	450	912	1 780	1 769	1 835	1 968	1 795	185,8%
Croatia	585	640	570	619	559	691	750	686	824	40,9%
Latvia	280	319	294	344	633	706	876	1 057	1 065	280,4%
Lithuania	918	1 048	689	945	1 136	1 333	1 435	1 596	1 730	88,5%
Hungary	14 857	14 928	13 235	15 668	16 861	13 959	13 205	12 088	13 511	-9,1%
Poland	3 108	4 950	5 585	7 289	6 963	8 594	10 274	13 122	15 250	390,7%
Romania	1 035	1 819	2 389	3 670	3 992	2 838	2 766	3 376	4 000	286,5%
Slovenia	1 015	1 205	1 033	1 167	1 322	1 303	1 405	1 449	1 695	67,0%
Slovakia	2 133	2 516	2 358	3 216	3 779	5 164	6 230	6 436	6 647	211,6%
Total	37 187	42 178	38 934	49 953	56 218	56 816	57 207	62 815	69 616	

Source: own calculations based on Eurostat.

In 2015 (latest data available) the largest high-tech exports among CEE countries were observed in: Czech Republic (22 bln EUR) and Poland (15,3 bln EUR) followed by Hungary (13,5 bln EUR), while the smallest values were found in Croatia (0,8 bln EUR), Latvia and Bulgaria (both 1,1 bln EUR). Except Hungary all CEE nations reported growth of high-tech exports during the studied nine years with the greatest values recorded by Poland (391%), Latvia (281%) and Slovakia (212%). Among the largest high-tech exporters in CEE there can be also observed its different share in total exports (table 2).

² This approach has been proposed by Hatzichronoglou (1997) and is based both on direct R&D intensity and R&D embodied in intermediate and investment goods. Subsequently some revisions to the initial concept have been undertaken (see: OECD (2011)).

Table 2. Share of high-tech exports in total exports in CEE nations (% , 2007-2015)

Nation	2007	2008	2009	2010	2011	2012	2013	2014	2015	Δpp
Bulgaria	:	:	:	:	:	3,8	:	3,9	4,6	0,8
Czech Republic	14,1	14,1	15,2	16,1	16,4	16,1	15,1	15,3	15,4	1,3
Estonia	7,8	7,5	6,9	10,4	14,8	14,1	14,9	16,3	15,4	7,6
Croatia	6,5	6,7	7,6	7,0	5,8	7,2	7,9	6,6	7,1	0,6
Latvia	4,6	4,6	5,3	4,8	6,7	6,4	8,0	9,7	9,8	5,2
Lithuania	7,3	6,5	5,8	6,0	5,6	5,8	5,8	6,6	7,5	0,2
Hungary	21,3	20,2	22,2	21,8	20,9	17,3	16,3	14,5	15,2	-6,1
Poland	3,0	4,3	5,7	6,0	5,1	6,0	6,7	7,9	8,5	5,5
Romania	3,5	5,4	8,2	9,8	8,8	6,3	5,6	6,4	7,3	3,8
Slovenia	4,6	5,2	5,5	5,3	5,3	5,2	5,5	5,4	5,9	1,3
Slovakia	5,0	5,2	5,9	6,6	6,6	8,2	9,6	9,9	9,8	4,8
Mean	7,8	8,0	8,8	9,4	9,6	8,8	9,5	9,3	9,7	

Source: own calculations based on Eurostat.

In 2015 greatest shares of high-tech exports in total exports were found in the case of greatest (Czech Republic, Hungary) and one of the smallest (Estonia) high-tech exporters. In contrary exports of Bulgaria and Slovenia are at least high-tech oriented nations among CEE countries what is suggested by low absolute (less than 1,7 bln EUR) and relative (less than 6% share in total exports) values of high-tech exports. In addition dynamics of changes of both values belonged to the lowest in the analyzed group of countries. There should be stated that CEE nations are perceived as developing countries, however there seems to be important to compare their results with the developed nations. In table 3 there has been presented growth of high-tech exports in developed nations during the same analyzed period.

Among the developed nations in 2015 Germany (177 bln EUR), Netherlands (102 bln EUR) and France (98,5 bln EUR) were the largest high-tech exporters. In most developed nations there was observed increase in the absolute value of high-tech exports, however the frequency was smaller than in CEE nations³. Comparing the CEE high-tech exports it should be stated that its total value (69 bln EUR) accounts for almost half of Germany high-tech exports and equals to the respective value in United Kingdom. However, from the studied group of developed nations there were countries with lower high-tech exports than greatest high-tech exporters from CEE regions (Czech Republic and Poland). These were: Greece (1,2 bln EUR), Portugal (1,9 bln EUR), Luxembourg (3,1 bln EUR), Finland (3,8 bln EUR), Denmark (9,2 bln EUR) and Spain (13,9 bln EUR). In these countries high-tech exports play relatively smaller role what is shown in the table 4.

Low absolute values of high-tech exports were reflected in the low shares of high-tech exports in total exports and were smallest in South Europe countries: Greece (4,6%), Portugal (3,8%), Spain (5,4%) and Finland (7,0%). There was also observed a relatively more frequent decline of the share of high-tech exports in developed nations (6 – Denmark, Ireland, Luxembourg, Portugal, Finland and United Kingdom) than in CEE countries (1 - Hungary).

³ In developed nations 3 countries (out of 16) reported decline, while in CEE nations only 1.

Table 3. High-tech exports in developed nations (mln EUR, 2007-2015)

Nation	2007	2008	2009	2010	2011	2012	2013	2014	2015	Δ%
Belgium	20 839	21 801	23 362	25 840	26 256	29 724	30 740	34 725	36 966	24,4%
Denmark	8 786	8 515	8 315	6 762	7 442	7 748	7 723	8 238	9 161	4,3%
Germany	125 210	122 304	112 641	133 195	142 503	155 222	155 251	160 429	176 963	41,3%
Ireland	22 820	20 756	18 351	16 642	18 296	18 807	18 368	19 567	26 617	16,6%
Greece	847	1 061	979	975	1 007	885	715	1 002	1 195	41,1%
Spain	7 832	7 966	7 793	9 119	10 583	11 447	13 025	12 606	13 683	74,7%
France	68 061	73 621	68 681	80 611	80 010	88 614	89 223	90 637	98 446	44,6%
Italy	21 890	21 936	19 849	22 091	24 224	24 800	25 929	26 759	28 442	29,9%
Luxembourg	5 507	6 220	6 413	4 354	3 863	3 974	3 037	2 818	3 063	-44,4%
Portugal	2 615	2 467	1 159	1 130	1 314	1 492	1 609	1 739	1 885	-27,9%
Netherlands	73 455	70 089	65 621	80 538	82 324	95 779	89 559	94 330	102 168	39,1%
Austria	13 266	13 358	11 509	13 620	14 272	16 594	18 786	19 270	19 507	47,0%
Finland	11 508	11 365	6 250	5 241	4 538	4 165	3 464	3 731	3 786	-67,1%
Sweden	16 360	16 463	13 730	17 322	18 533	17 236	16 463	16 004	17 072	4,4%
United Kingdom	54 179	49 585	48 511	55 481	59 703	64 106	62 941	59 377	69 322	27,9%
Total	453 175	447 507	413 164	472 921	494 868	540 593	536 833	551 232	608 276	

Source: own calculations based on Eurostat.

Table 4. Share of high-tech exports in total exports in developed nations (% , 2007-2015)

Nation	2007	2008	2009	2010	2011	2012	2013	2014	2015	Δpp
Belgium	6,6	6,8	8,8	8,4	7,7	8,6	8,7	9,8	10,3	3,7
Denmark	11,7	10,7	12,3	9,3	9,3	9,4	9,3	9,9	10,7	-1,0
Germany	13,0	12,4	14,0	14,0	13,5	14,2	14,3	14,3	14,8	1,8
Ireland	25,7	24,3	22,1	18,9	20,3	20,7	20,9	21,3	24,0	-1,7
Greece	4,4	5,0	5,5	4,6	4,1	3,2	2,6	3,7	4,6	0,2
Spain	4,2	4,2	4,8	4,8	4,8	5,0	5,4	5,2	5,4	1,2
France	16,7	17,6	19,7	20,4	18,7	20,0	20,4	20,7	21,6	4,9
Italy	6,0	5,9	6,8	6,5	6,4	6,4	6,6	6,7	6,9	0,9
Luxembourg	32,9	35,6	41,9	30,7	25,8	27,1	21,9	19,5	19,7	-13,2
Portugal	6,8	6,3	3,7	3,0	3,1	3,3	3,4	3,6	3,8	-3,0
Netherlands	18,3	16,2	18,4	18,6	17,2	18,8	17,7	18,6	20,0	1,7
Austria	11,1	10,8	11,7	11,8	11,2	12,8	14,2	14,4	14,2	3,1
Finland	17,5	17,3	13,9	10,0	8,0	7,3	6,2	6,7	7,0	-10,5
Sweden	13,3	13,2	14,6	14,5	13,8	12,8	13,0	12,9	13,5	0,2
United Kingdom	16,8	15,4	19,0	17,7	16,4	17,4	15,5	15,6	16,7	-0,1
Mean	13,7	13,4	14,5	12,9	12,0	12,5	12,0	12,2	12,9	

Source: own calculations based on Eurostat.

To sum up developed leaders in high-tech exports outperform significantly CEE countries in terms of absolute values, however not all developed nations report greater high-tech exports than CEE leaders. Moreover, high-tech exports orientation (perceived as a share) is on average greater in developed nations than in CEE countries. However, CEE nations report on average much higher growth of the high-tech exports than developed nations (table 5).

Table 5. Largest growths of high-tech exports in CEE and developed nations (% , 2007-2015)

CEE		Developed nations	
Poland	390,7%	Spain	74,7%
Romania	286,5%	Austria	47,0%
Latvia	280,4%	France	44,6%
Slovakia	211,6%	Germany	41,3%
Estonia	185,8%	Greece	41,1%

Source: own calculations based on Eurostat.

Much greater high-tech exports growths in CEE nations derive partially from the low base effect. Largest high-tech exports in 2007 (initial study year) in the group of CEE nations with greatest growth amounted to 3,1 bln EUR, while in the developed nations sample there were only two countries with lower absolute value of high-tech exports (Portugal and Greece). In fact, Greece recorded one of the largest growth of high-tech exports what contributes to above conclusion.

Analysis conducted above points out also two important aspects. First, development of knowledge-based economy is observed and reflected in the structure of exports (as emerge and rising share of high-tech products in total exports). Second, developing nations are gradually increasing their position in the international labor division in the knowledge-intensive industries what is a positive phenomenon. However, above presented macroeconomic data do not provide full picture related to the performance of the domestic economy development. Important aspect is the level of utilization of national capabilities while performing internationally. Thus the questions that should be asked are following:

- Q1:** Is the high-tech exports driven by domestic or foreign entities?
- Q2:** Which subcategories of high-tech exports are mostly dependent on foreign capital?
- Q3:** Is the dependency on foreign capital greater in CEE or developed nations?

Answers to above questions will help to understand better the phenomenon of the growth of high-tech industries and exports in nations, especially to which extent are the changes in fact driven by foreign resources. Such analysis will help to understand better the role of national capabilities in the process of development of high-tech exports.

RESEARCH METHODS

Sample selection

Study consisted of two groups of nations: Central and Eastern Europe countries and European developed nations. Both samples encompassed only chosen countries what derived from the fact that data on domestic and foreign capital involvement in high-tech exports were limited. As a result five CEE nations have been included in the study (Czech Republic, Lithuania, Poland, Romania and Slovenia). In contrary second group was formed by nine developed nations (Austria, Belgium, Finland, Germany, Netherlands, Norway, Portugal, Spain and United Kingdom).

Methods, sources of data and time extent

In both groups of countries knowledge-intensive exports have been determined according to the OECD methodology for classifying high-technology. Data concerning domestic and foreign capital involvement in exports have been gathered with the help of Eurostat database. Eurostat adopted OECD technology classification (transforming it to NACE Rev. 2), however naming high-technology industries differently. As a result following industries from the Eurostat database have been identified as high-tech:

- manufacture of basic pharmaceutical products and pharmaceutical preparations,
- manufacture of computer, electronic and optical products,
- manufacture of other transport equipment,
- information and technology.

Analysis referred to the total exports (including Intra- and Extra-EU exports) of goods only. Note that services (*Knowledge-Intensive Business Services*) were not the subject of this study. All sectors have been analyzed in terms of foreign and domestic capital involvement in each country. Study was conducted for the latest year available – 2015. Foreign enterprise has been defined according to the approach of data provider⁴. Unfortunately, in the Eurostat database there were some data classified as *Unknown* which referred to the quantity and value of high-tech exporters. In some cases the quantity and/or value described as *Unknown* was so large (sometimes even 90% of total high-tech exports) that some nations had to be excluded from the study in order not to provide incorrect results⁵.

RESULTS

Study was conducted in two steps. In the first step there have been determined the total number of high-tech exporting enterprises with the industry and country breakdown. Second step consisted of the analysis of the value of high-tech exports in both studied groups. Analysis has been conducted in four industries classified as high knowledge-intensive. Table 6 presents the results of domestic and foreign enterprises in the basic pharmaceutical products and pharmaceutical preparations industry.

In 2015 in CEE nations the greatest number of high-tech exporting enterprises was observed in Poland – 111, out of which 83 were domestic and only 28 foreign ones what implies that in terms of quantity of enterprise, the involvement of foreign capital in Polish high-tech exports amounted to 25,2%. On average CEE nations reported 32,8% share of foreign capital in high-tech exports. In contrary, developed nations reported on average higher involvement of foreign capital (46,8%), however studied sample was in this case much more diversified (Netherlands was in fact the country with greatest share of foreign enterprises in high-tech exports – 92,9%). In contrary, the absolute values of high-tech exports have been shown in table 7.

⁴ Eurostat defines *foreign control* as follows: “Foreign control shall mean that the controlling institutional unit is resident in a different country from the one where the institutional unit over which it has control is resident.”

⁵ Exclusion criterion utilized in the study was the share of the *Unknown* position in total exports exceeding 5%.

Table 6. Manufacture of basic pharmaceutical products and pharmaceutical preparations (quantity, 2015)

Country	Number of enterprises	Domestic owners	Foreign owners	% foreign capital
CEE (mean)				32,8%
Czech Republic	42	22	20	47,6%
Lithuania	10	7	3	30,0%
Romania	53	38	15	28,3%
Poland	111	83	28	25,2%
Slovenia				
Developed nations (mean)				46,8%
Belgium				
Germany				
Spain	244	180	64	26,2%
Netherlands	112	8	104	92,9%
Austria	60	40	20	33,3%
Portugal				
United Kingdom				
Norway	23	15	8	34,8%
Finland				

Source: own calculations based on Eurostat.

Table 7. Manufacture of basic pharmaceutical products and pharmaceutical preparations (value thd EUR, 2015)

Country	Total exports	Domestic owners	Foreign owners	% foreign capital
CEE (mean)				82,4%
Czech Republic	921 483	138 959	782 524	84,9%
Lithuania	41 487	4 439	37 047	89,3%
Romania	378 341	140 419	237 921	62,9%
Poland	1 514 891	111 514	1 403 376	92,6%
Slovenia				
Developed nations (mean)				74,2%
Belgium	11 535 761	1 635 178	9 708 227	84,2%
Germany	37 350 181	18 756 277	18 166 139	48,6%
Spain	6 085 212	1 841 643	4 243 568	69,7%
Netherlands	6 272 926	65 377	6 207 549	99,0%
Austria	4 448 356	1 002 321	3 446 034	77,5%
Portugal	587 323	172 879	390 936	66,6%
United Kingdom	13 734 091	6 483 729	6 898 997	50,2%
Norway	1 407 094	30 128	1 376 965	97,9%
Finland				

Source: own calculations based on Eurostat.

As stated before CEE nations in terms of quantity of foreign firms reported a relatively low dependency of foreign capital in the exports of basic pharmaceutical products and pharmaceutical preparations, however in terms of absolute value, the average involvement of foreign enterprises amounted to 82,4% with the greatest values attributed to

Poland (92,6%) and Czech Republic (84,9%) what in fact provides opposite results. In developed nations foreign capital ratio is also greater in terms of values than in terms of quantity but lower than in CEE nations. To sum up, export of basic pharmaceutical products and pharmaceutical preparations both in CEE and developed nations is strongly dependent upon foreign capital.

Second industry analyzed among the high-tech exports was manufacture of computer, electronic and optical products (table 8).

Table 8. Manufacture of computer, electronic and optical products (quantity, 2015)

Country	Number of enterprises	Domestic owners	Foreign owners	% foreign capital
CEE (mean)				23,9%
Czech Republic	269	167	102	37,9%
Lithuania	80	71	9	11,3%
Romania	194	108	86	44,3%
Poland	882	786	96	10,9%
Slovenia	168	143	25	14,9%
Developed nations (mean)				28,3%
Belgium				
Germany				
Spain	799	753	46	5,8%
Netherlands	605	48	557	92,1%
Austria	358	299	59	16,5%
Portugal				
United Kingdom				
Norway	163	135	28	17,2%
Finland	289	260	29	10,0%

Source: own calculations based on Eurostat.

In the manufacture of computer, electronic and optical products there were much more enterprises both in CEE and developed nations in comparison to the manufacture of basic pharmaceutical products and pharmaceutical preparations. The largest quantity was observed in terms of Poland (882), what is interesting among all nations with available data that was the greatest number. Second country with the largest number of enterprises was Spain (799). Both in CEE and Developed nations (with the exception of Netherlands) domestic enterprises were prevailing. Mean quantity of foreign entities amounted to 23,9% in CEE countries and 28,3% in Developed nations, however similarly to the manufacture of basic pharmaceutical products and pharmaceutical preparations Netherlands was the country with the exceptional high involvement of foreign capital. Analysis of the computer, electronic and optical products exports in terms of values has been presented in the table 9.

Absolute values of the computer, electronic and optical products exports suggest that the involvement of foreign capital is much larger than simple analysis based on the quantity. In CEE countries mean value amounted to 72,1% while in Developed nations – 51,5% what on average is lower than in the case of basic pharmaceutical products and pharmaceutical preparations, however some nations recorded very high dependency on foreign capital, which were Czech Republic (91,3%), Romania (90,6%), Poland (88,5%)

and Portugal (85,9%). What is interesting, Lithuania was the country with the lowest share (17,8%) of foreign capital in the exports of computer, electronic and optical products what was lower than the lowest value in Developed nations (Spain – 28,4%). Great Britain, largest exporter among the two studied group recorded a 66,7% of foreign capital involvement in the exports of the analyzed category. Third analyzed high-tech industry was exports of other transport equipment (table 10).

Table 9. Manufacture of computer, electronic and optical products (value thd EUR, 2015)

Country	Total exports	Domestic owners	Foreign owners	% foreign capital
CEE (mean)				72,1%
Czech Republic	4 373 087	382 287	3 990 800	91,3%
Lithuania	217 834	179 158	38 675	17,8%
Romania	1 450 060	136 035	1 314 025	90,6%
Poland	5 809 180	670 187	5 138 993	88,5%
Slovenia				
Developed nations (mean)				51,5%
Belgium				
Germany				
Spain	1 446 606	1 035 811	410 795	28,4%
Netherlands	7 778 403	2 653 274	5 125 129	65,9%
Austria	3 581 976	2 108 214	1 473 762	41,1%
Portugal	888 756	115 327	763 785	85,9%
United Kingdom	1 446 606	1 035 811	410 795	66,7%
Norway	7 778 403	2 653 274	5 125 129	33,3%
Finland	3 581 976	2 108 214	1 473 762	39,5%

Source: own calculations based on Eurostat.

Table 10. Manufacture of other transport equipment (quantity, 2015)

Country	Number of enterprises	Domestic owners	Foreign owners	% foreign capital
CEE (mean)				24,2%
Czech Republic	116	86	30	25,9%
Lithuania	24	18	6	25,0%
Romania	67	35	32	47,8%
Poland	455	393	62	13,6%
Slovenia	51	46	5	9,8%
Developed nations (mean)				27,4%
Belgium				
Germany				
Spain	278	250	28	10,1%
Netherlands	313	37	276	88,2%
Austria	58	51	7	12,1%
Portugal				
United Kingdom				
Norway	174	150	24	13,8%
Finland	86	70	11	12,8%

Source: own calculations based on Eurostat.

The country with the most numerous exporting enterprises in the manufacture of other equipment in both groups was found in Poland (455), out of which majority were domestic firms (foreign capital involvement – 13,6%). Similar ratios were observed in Developed nations: Spain (10,1%), Austria (12,1%), Norway (13,8%) and Finland. On average there were observed similar values of foreign capital involvement in CEE and Developed countries, however in Romania and Netherlands ratios were significantly above average (47,8% and 88,2% respectively). Data on the exports of other transport equipment in terms of value have been presented in the table 11.

Table 11. Manufacture of other transport equipment (value thd EUR, 2015)

Country	Total exports	Domestic owners	Foreign owners	% foreign capital
CEE (mean)				57,1%
Czech Republic	1 484 543	756 659	727 884	49,0%
Lithuania	110 186	99 321	10 866	9,9%
Romania	1 367 224	134 325	1 232 899	90,2%
Poland	3 267 617	672 330	2 595 287	79,4%
Slovenia				
Developed nations (mean)				50,2%
Belgium				
Germany	50 810 744	7 428 993	42 310 883	83,3%
Spain	5 980 138	1 882 201	4 097 937	68,5%
Netherlands	4 048 585	2 735 915	1 312 670	32,4%
Austria	1 177 738	859 124	318 614	27,1%
Portugal	223 005	84 579	115 066	51,6%
United Kingdom	29 352 181	16 354 626	12 153 281	41,4%
Norway	2 095 598	1 115 434	980 164	46,8%
Finland				

Source: own calculations based on Eurostat.

Two largest exporters of other transport equipment, Germany and United Kingdom reported an observable difference in the ratio on foreign capital dependency (83,3% in Germany, 41,4% in United Kingdom). In CEE countries, Poland as the largest exporter of other transport equipment reported high dependency on foreign capital (79,4%), however the highest involvement of foreign capital among two groups of nations was observed in the case of Romania (90,2%), what was greater than the highest ratio in Developed nations (Germany). What is interesting, as shown in the previous tables, Netherlands was the country with high foreign capital dependency in the high-tech exports, however in the case of the other transport equipment, this ratio was surprisingly low (32,4%).

Last analyzed industry was information and communication (table 11).

The country with the greatest number of the exporting enterprises in the information and communication industry was Netherlands among which vast majority were foreign ones (96,6%). Such high dependency on foreign capital was not observed in any of the analyzed nations, neither in CEE nor Developed countries. Romania was the second-largest nation in terms of the quantity of foreign owned firms, however with the much lower ratio (31,3%). On average Developed nations were more foreign capital dependent than CEE countries (29,9% vs. 19,1%), however due to the previously men-

tioned outstanding high ratios in Netherlands. Analysis of the values of the information and communication exports was conducted in table 12.

Table 11. Information and communication (quantity, 2015)

Country	Number of enterprises	Domestic owners	Foreign owners	% foreign capital
CEE (mean)				19,1%
Czech Republic	300	219	81	27,0%
Lithuania				
Romania	511	351	160	31,3%
Poland	2 328	2 127	201	8,6%
Slovenia	1 000	906	94	9,4%
Developed nations (mean)				29,9%
Belgium				
Germany				
Spain	4 871	4 569	302	6,2%
Netherlands	5 687	196	5 491	96,6%
Austria	2 050	1 874	176	8,6%
Portugal				
United Kingdom				
Norway	652	508	144	22,1%
Finland	521	433	83	15,9%

Source: own calculations based on Eurostat.

Table 12. Information and communication (value thd EUR, 2015)

Country	Total exports	Domestic owners	Foreign owners	% foreign capital
CEE (mean)				35,8%
Czech Republic	152 834	122 001	30 833	20,2%
Lithuania	39 382	18 855	20 527	52,1%
Romania	63 483	27 805	35 678	56,2%
Poland	412 943	229 188	183 755	44,5%
Slovenia	147 748	138 769	8 980	6,1%
Developed nations (mean)				46,5%
Belgium				
Germany				
Spain	766 054	691 974	74 080	9,7%
Netherlands	3 429 630	672 280	2 757 350	80,4%
Austria	338 443	222 591	115 852	34,2%
Portugal				
United Kingdom				
Norway	169 714	100 780	68 934	40,6%
Finland	160 067	51 462	108 383	67,7%

Source: own calculations based on Eurostat.

In 2015 Netherlands was the country with not only greatest absolute values of the information and communication exports (3,4 bln EUR), but also with the highest foreign capital ratios (80,4%) what puts Netherlands again as the most dependent on foreign

capital nation in high-tech exports among all analyzed countries. Second country with the largest dependency was Finland (67,7%) and third Romania (56,2%). On average CEE countries report lower dependency on foreign capital than Developed nations, however the reason behind that score is high ratio in terms of Netherlands.

Above analysis shows that involvement of foreign capital in high-tech exports varies not only in terms of countries but also with regard to sub-category. Ratios of the value of high-tech exports driven by domestic and foreign enterprises (value above 1 indicates that exports of high-tech products by domestic firms outperforms the one by foreign companies) in the total studied sample have been shown in the figure 1.

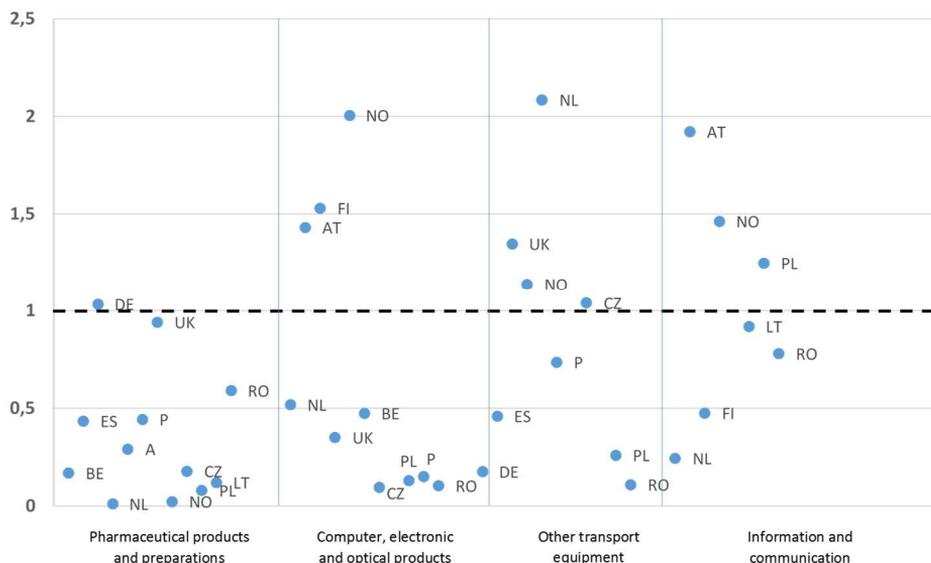


Figure 1. Ratios of high-tech exports driven by domestic and foreign enterprises – country and industry breakdown (value, 2015)

Notes: Position on the horizontal axis derives from the default order. In the case of six nations ratios exceeded the scale. These were: Lithuania (4,6 - Computer, electronic and optical products), Austria and Lithuania (2,69 and 9,14 - Other transport equipment), Spain, Czech Republic and Slovenia (9,3, 3,9 and 15,4 - Information and communication). Different quantity of countries in the high-tech sub-categories derives from the lack of data.

Source: own work based on Eurostat.

High-tech subcategory with prevailing involvement of foreign capital in exports are pharmaceutical products and preparations, followed by computer, electronic and optical products. In these two industries mean ratio of the high-tech exports drive by domestic and foreign capital amounted to 0,35 and 1,14 respectively. In the computer, electronic and optical products industry there was only one country (Germany) in which exports of high-tech driven by domestic capital exceeded the one driven by foreign ones. In turn, in the exports of computer, electronic and optical products there were four countries with ratios greater than one. Three of them belonged to the group of developed ones. Interesting phenomenon has been observed in the last two sub-categories of high-tech exports. Although the quantity of countries with prevailing foreign capital in exports was the same (six), mean ratios were significantly different (1,74 vs. 4,47 respectively). Moreover, in the

other transport equipment industry number of developed nations with prevailing domestic capital in exports was four (Norway (1,14), United Kingdom (1,35), Netherlands (2,08), Austria (2,7)) and two in terms of CEE countries (Czech Republic (1,04), and Lithuania (9,14)), however in the information and communication industry these numbers were the same for developed (Norway (1,5), Austria (1,9) and Spain (9,3)) and CEE nations (Poland (1,25), Czech Republic (3,9), Slovenia (15,5)). That implies that there are certain high-tech industries which exports are driven not by foreign but domestic resources.

CONCLUSIONS

This paper aimed to analyze the growth of knowledge-intensive exports of CEE and developed nations from Europe and to state what kind of enterprises (domestic or foreign) are prevailing in the high-tech exports.

First, it should be concluded that the absolute values of high-tech exports are much greater in developed nations than in CEE countries, however some developed nations reported smaller absolute values of high-tech exports than the CEE high-tech exports leaders (Czech Republic, Poland and Hungary). CEE countries on average outperform developed nations in terms of the dynamics of growth of high-tech exports. Moreover, in developed nations high-tech exports plays more important role than in CEE countries (measured by the share in total exports).

Second, in terms of the dependency on foreign capital, conducted analysis revealed that in the case of the quantity of the high-tech exporting firms in CEE countries only 25% of them are foreign, whereas in the studied developed nations the number is slightly higher – 27%. That may suggest that dependency on average in all analyzed high-technology sub-categories is low. Highest involvement of foreign capital was found in Netherlands in the information and communication industry where 96,6% of the firms were foreign, whereas lowest number of foreign entities was observed in Spain in the exports of computer, electronic and optical products – 5,8%. However, in the case of the value of the high-tech exports results are significantly different. High-tech exports is on average higher dependent on foreign capital in CEE countries than in developed nations (60,0% vs. 55,6%), however within the sub-industry breakdown there were important differences observed. Greatest mean dependency was found in the sub-category: basic pharmaceutical products and pharmaceutical preparations, followed by manufacture of computer, electronic and optical products and manufacture of other transport equipment. Least dependent exports on foreign capital was information and communication subcategory. This finding was observed both in CEE and developed nations. Greatest dependency was recorded by Netherlands in the sub-category of: basic pharmaceutical products and pharmaceutical preparations, whereas lowest in Slovenia. Thus it should be concluded that both in CEE and developed nations there are more domestic than foreign high-technology exporting entities (with the exception of Netherlands), however greater revenues from exports are generated by foreign firms. Second tendency is stronger in CEE nations than in developed ones (with certain exceptions in information and communication industry). Subsequently, that implies that strong growth of high-tech exports of the majority of CEE countries is the result of nations openness for foreign capital.

In summary, research has contributed to the field of high-tech exports with the sub-industrial background and foreign capital involvement. The paper's findings provide

country policy makers with the analysis of the current development of exports in high-tech industries what may help them to form national frameworks and guidelines for the innovation-based growth. As a limitation, the author points out that the analysis referred only to the certain CEE and developed nations what was the result of the lack of data referring to the foreign capital involvement. Therefore, the results should be tested in greater number of nations to check their validity and generalization possibilities. Especially interesting would be to analyze the influence of foreign capital involvement in high-tech exports on its competitiveness and state welfare.

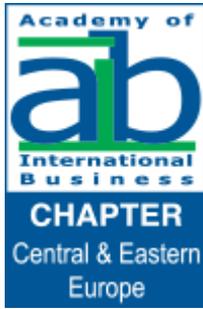
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The role of external service providers in HR processes: comparative analysis Hungary – Slovakia

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Abstract

In today's rapidly changing economic environment the fluctuation in workforce demand poses challenges for the human resource management of companies. The role of HR management is becoming ever more important in the efficient operation of organisations to maintain their competitiveness. The main responsibilities of HRM are recruiting, selecting and retaining an adequate number of well-trained workforce, for which organisations rely on assistance from external service providers. The present study is based on the 2015-2016 International Cranet HRM Research, which provides the backgrounds for our empirical study. The study presents the role and tasks of external providers in the lives of organisations, and also examines in which areas Hungarian and Slovakian organisations use the services of external providers for performing HRM tasks. In addition, it analyses to what extent company size influences the service areas and types provided by external professionals. The two-country analysis investigated the common and distinctive features of HR advice. Companies mostly regard external service providers as means of cost reduction. It has been found that regardless of the company size external service providers are widely used in both countries in HRM practice, and the services extend to selection processes and workforce development alike. However also suggest that, this trend is most popular at

large organizations and foreign-owned companies and in certain respects there also has disparity of external service providers for the purposes in two countries.

Keywords: HR management, external service providers, training, labour shortage, outsourcing

JEL codes:

INTRODUCTION

Human resource management is a multi- and interdisciplinary science, which has undergone a constant change over the last century with major changes in its role and function. Today's changes are strongly influenced by the development and changes of the global business environment, which poses challenges to organisations (Kubr, 1996, Niedereichholz and Niedereichholz, 2012). These factors have impact on the industry consulting, advisory processes and advisors alike, which is not an exception from the HR consulting either (Ennfelner et al., 2014).

In the beginning HR dealt with improving the working and living conditions of workers (Ivancevich, 1995); nowadays besides administrative tasks (Drucker, 1973; Fombrun et al. and Beer et al., 1984) human resources has a strategic function in the operation of organisations. The strategic role of HR is increasing efficiency, profit and employee satisfaction, and it is manifested in the production process (Storey, 1995; Ulrich & Dulebohn, 2015), the worker became a critical resource for organisational competitiveness (Cleveland et al., 2015). In the Eastern Central European region in the socialist era HR functions were administrative tasks using the methods of Taylor's scientific management (Kazlakauiste et al., 2013), personnel management was under strict state control (Pundziene – Bučiūnienė, 2009; Morley et al., 2016). After the political system change, in Hungary and Slovakia, due to the economic changes, internationalisation and globalisation, the practice of HR changed and evolved considerably; for an increasing number of companies human resource as strategic resource gained strategic importance (Karoliny, 2017), and so did the organisational units employing HR professionals. Following the regime change, the appearance and increasing role of foreign-owned and international companies transformed human resource management's principles, functions, systems and relationships, which resulted in the evolution of basic organisational processes and management functions related to the existence and development of the companies. These changes prompted the development of organisations' human resource management and human capital with a view to representing the requirements of the stakeholders – owners, consumers, line managers and employees (Karoliny, 2017). With the transformation of the political, legislative, social and economic system in the region, not only the appearance of new business opportunities but also of subsidiaries of multinationals posed challenges to organisations, significantly influencing their operation. Consequently, new demands arose in the practice of human resource management (Lewis, 2005), and the demand for external HR service providers' activities also increased.

EXTERNAL SERVICE PROVIDERS

Besides providing traditional HR advice, the external service providers of human resource management market more and more services that are related to specialised knowledge and activities. HR advice belongs to knowledge-based services (Miles et al., 1993), which are constantly changing and developing.

Sveiby (1992) describes a knowledge-intensive organisation as one in which the majority of employees are highly educated, where the product is not standardized but involves a high degree of problem-solving skills and information manipulation. In respect of such services, we need to highlight four important aspects in the following areas:

- human capital and knowledge intensive,
- a high degree of intangible activities and services,
- difficulties in standardization,
- intensive interaction between consultants and clients.

There are several dimensions of external HR advice, ranging from providing special functions to headhunting, from structure development to strategic advice. This activity includes a wide range of services provided by HR advisors, as well as organisations dealing with training, HR IT advice, HR outsourcing and HR benchmarking. According to Belcourt (2006), in outsourcing HR functions decreasing costs and HR staff workload, handling strategic issues, access to new technologies and improving HR functions play an important role. HR outsourcing includes a broad spectrum of internal HR functions and external sources of staff supply, such as temporary agent work, payroll services, outplacement and employment services (Alewell, Hauff, Thommes and Weiland, 2009).

The firms engage in outsourcing of HR functions to save money, to free up core HR staff to deal with strategic issues, to access new technology and capabilities or simply to improve overall functionality (Belcourt, 2006). The outsourcing falls outside of a strict definition of consultancy, but in practice, the usage of external providers to fulfil aspects of the HR function may, in some instances, constitute outsourcing (Poor-Groos, 2010). In contrast, outsourcing may be defined as “the practice of providing assistance towards organizational improvements” or the provision of services that add value beyond the basic maintenance activities of day to day personnel administration (Sturdy 2011). The outsourcing assumes a consulting dimension when it adds value to the HR function and/or new specialized expertise (Sheehan 2009), rather than simply replicating it outside of the walls of the organization. Moreover, other work would suggest that a major driver of HR outsourcing remains aggressive cost cutting, with possible effects for overall effectiveness (Beregszaszi and Polay, 2012). This might indicate that, given relatively marginal gains or high risks, it may be the kind of activity readily jettisoned in difficult times. Lievens and de Corte (2008) argue that outsourcing relationships are more likely to persist when they are multifaceted, and when HR managers perceive the outside providers as sharing similar values. Although Cooke, Shen and McBride (2005) found widespread usage of external providers for at least one HR function, take up rates varied greatly between contexts.

SPECIFIC PROVIDERS

Management advice has undergone a long development process, and it was transformed starting from the mid-80s the latter was characterized by a focus on targets and meas-

urement, coupled with aggressive rhetoric centring on short term value release (Grint and Case, 1990).

Such consultancy sought to enhance all the functional of management, but, as employees are the main non-owner stakeholders with sunk capital in the firm (Goergen et al. 2012), it could be argued that the increased role of consultants in managing a firm's people is vested with particular importance; indeed, Briscoe et al. (2009) note that consultants have become a ubiquitous feature of organizational life across the developed world. Sheehan (2009) found that larger firms were more likely to make usage of HR consultants in order to secure new specialized skills. Although this particular service field was rarely seen in the ex-socialist countries prior to 1990, the political transition in these countries opened the door to external HR consultants, who are now similarly active across the region (FEACO 2013).

The aim of HR advice is to improve leadership areas, therefore, advisors are present in all areas of the organisation providing specialised skills for companies. These skills safeguard the sustainable development and competitiveness for companies. However, the presence of external service providers does not mean that an organisation lacks political, ideological and moral standards (Kipping 2002; Grint and Case 1998). It means that the context of a special national institutional system better facilitates the development and spread of HR practices. Previous research shows that although Eastern Central European economies developed in different ways, the HR services external providers offer and their development paths show common features (Christensen et al., 2013).

The External HR consultancy encompasses many dimensions ranging from those providing special functions for example recruitment by head-hunters through logistic services to strategic inputs and is an activity embracing not only traditional HR consultancy firms, but also head-hunters, training companies, employment agencies, HR-IT service companies and - in recent years - an increasing number of outsourcing providers (Poót et al., 2016). The ubiquity of external providers for HRM services does not mean that it lacks political, ideological and value dimensions (Kipping 2002; Grint and Case 1998). As the literature on comparative capitalism alerts us, specific national institutional contexts are more conducive to particular types of practices than others (Hall and Soskice 2001; Whitley 1999), and it is likely that, common pressures notwithstanding, the uptake on such services is likely to remain even both within and between types of national economy (Wood and Lane 2012). However, as the range of external HR services offered growth, the development paths of some countries also show common features including time cycles and culture and institution related specifics of the regions in question (Christensen et al, 2013). If we take a longer-term perspective, it becomes clear that the evolutions of different fields of the consulting industry and of its pre-eminent firms are closely linked to the development of management practice and ideology (Kipping, 2002).

METHODOLOGY

Sample

The present research is basically an international level descriptive study, which was conducted in Hungary and Slovakia in 2015-2016. It was based on a 70-question Cranet HRM survey, which provides an appropriate background for the research results. This study

presents the results relevant to external service providers. The research investigates typical human resource variates (Dowling et al., 2013). In terms of the variates HR characteristics, the number and workload of the human resource unit and the changes of human resource management were analysed. The questionnaire was completed by 535 organisations, 51% in Hungary, 49% in Slovakia. The investigation is descriptive in nature, based on objective data.

Hypothesis

- H1:** It was postulated that larger organisations operating an HR department show greater demand for external providers than smaller organisations or organisations lacking an HR department.
- H2:** In Hungary the average annual number of training days is higher in the private sector than in the public sector regardless of the company owner-structure.
- H3:** In Slovakia the average annual number of training days is higher in the private sector than in the public sector regardless of the company owner-structure.

These hypotheses were supported by using general statistical methods; data evaluation was carried out using the SPSS software. Univariate and multivariate statistical data analyses were used.

RESULTS

Sample Overview

The vast majority of organisations taking part in the research operate in the private sector, 90.1% and 63.8% in Hungary and Slovakia, respectively. In the Hungarian sample the public sector is significantly highly represented (32.8%) compared to the Slovakian sample.

In terms of sectoral distribution, in both countries the majority of respondents deal with 'telecommunications, IT and other information service activities' (13%) and 'financial and insurance activities' (13%). In the Hungarian sample respondents mainly operate in the private sector, in wholesale and retail (9.1%) and in the accounting, management, and architectural services sector (7.7%). In the Slovakian sample machine and equipment manufacturing companies are highly represented (10%), followed by enterprises engaged in wholesale and retail activities (5.0%), food, beverages, wood, textile and paper manufacturing.

Characteristically, more than half of the Hungarian organisations (62.9%) serve local, regional and national markets, whereas Slovakian organisations are slightly higher represented in domestic markets with 65%. Similar representation can be observed for the two countries in terms of European markets (13.7% and 13.8%, respectively). 23.4% of Hungarian respondents are part of the global market, while Slovakian companies compete in the global market at a slightly lower rate (21.1%).

With respect to organisational size, 63.4% of Hungarian companies belong to the SME category, larger enterprises' share is low (23.3%) and companies having more than 1000 employees are present with 13%. In Slovakia, half of the companies are mid-sized with 50-249 employees, small companies account for one third of the respondents. Only

one fifth of the sample represents companies having more than 250 employees, which shows lower distribution than in the Hungarian sample.

Table 1. Distribution of respondents by headcount

	Country	
	Hungary	Slovakia
1-9 employees	10,1%	3,1%
10-49 employees	21,8%	25,6%
50-249 employees	31,5%	50,0%
250-999 employees	23,3%	14,9%
1000-4999 employees	11,3%	6,1%
over 5000 employees	1,9%	0,4%

Source: own compilation based on Poór et al. (2016).

The study examined the employment structure of organisations, based on which it can be said that in both Hungarian and Slovakian companies the percentage of managerial staff is almost 13% in the samples. Slovakian companies employ professionals at a higher rate (66%), whereas administrative workforce accounts for 21%. In contrast, in Hungary only 47% of the companies employ professionals, whereas office and physical workers make up 42% of the workforce.

In the life and development of companies company strategy plays a decisive role, and it relates to all areas of business operation. Consequently, the study examined whether the participant organisations have formal and informal organisational and HR strategy communicated within the organisation. The results reveal that 65% of the Hungarian companies have a business strategy and half of them have an HR strategy, and recruitment, and training and development strategies (Table 2).

Table 2. Business and HR strategy

	Hungary		Slovakia	
	Yes	No	Yes	No
Business strategy	65,7%	34,3%	78,3%	20,9%
HR strategy	55,1%	44,9%	65,8%	34,2%
HR recruitment strategy	42,9%	57,1%	64,3%	35,7%
HR training and development strategy	52,0%	48,0%	69,3%	30,7%

Source: own compilation based on Poór et al. (2016).

A higher number, 79% of Slovakian organisations have a business strategy, whereas almost two thirds of the participants have HR, recruitment, and training and development strategies.

It was also investigated in the research that in issues related to HR operations who is the decision-maker.

In Hungary 80% of examined organisations have an independent HR department or section, where almost two thirds (72.9%) of the employees are female. In contrast, the rate of companies having a personnel and human resource unit is higher, 90%, in Slovakia, but the rate of female employees is lower, only 64.8%.

Table 3. Distribution of HR units and HR employees

Description	Country	
	Hungary	Slovakia
HR unit EXISTS	19.9 %	12.6 %
HR unit LACKING	80.1 %	87.4 %
HR employee numbers- FE-MALE	72.9 %	64.8 %
HR employee numbers- MALE	27.1 %	35.2 %

Source: own compilation based on Poór et al. (2016).

In the Hungarian companies asked an HR staff member deals with 67 employees on average, whereas in Slovakia 57 employees' issues are dealt with by an HR worker.

It was also investigated in the research that in issues related to HR operations who is the decision-maker. The responses from larger organisations, in Hungary the principle of centralisation at national level is most characteristic. 35% of the decisions in the HR areas surveyed are made at national level. However, decisions on workforce expansion and management training are typically (26.2-31.3%) made at international level

Responses received from Slovakia show the opposite trend, as decentralised decision-making is more typical. At least half of the respondents (50.8 to 59%) who are part of larger companies / institutions indicated that major HR decisions were typically determined at local institutional / subsidiary / divisional level (14.1-21.4%). It is typical of only 1/5 of the respondents that HR policy decisions are made in national centres. In the international centres also, issues of management training, as well as of pay and benefits are dealt with.

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About external providers

The examined questions of the research are the composition and type of external services used by organisations. 38% of Hungarian companies outsource payroll and pension-related functions (Table 4). Two thirds of the organisations decide themselves about employee benefits. It is the least common for Hungarian respondents to outsource workforce reduction, HR information systems, recruitment and selection, and only a small percentage trust an outside company with provision of information to management and employees.

Table 4. Role of external HR service providers in Hungary

Hungary	0 No out- sourcing	1	2	3	4 Full out- sourcing	Total
Payroll	51.5%	1.1%	4.1%	5.3%	38%	100%
Pensions	61.8%	1.5%	3.5%	2.3%	30.9%	100%
Benefits	73.8%	4.9%	7.5%	2.6%	11.2%	100%
Training and development	50.9%	14.1%	22.7%	8.2%	4.1%	100%
Workforce reduction/redundancies out- placement	88.6%	3.0%	3.7%	1.8%	3.0%	100%
HR information systems	72.1%	8.7%	9.1%	3.8%	6.4%	100%
Recruitment	61.9%	15.2%	16.7%	4.1%	2.2%	100%
Selection	76.6%	12.6%	7.8%	1.5%	1.5%	100%
Handling management/employee regular enquiries (HR call-centre)	90.3%	2.6%	3.0%	1.9%	2.2%	100%

Source: own compilation based on Poór et al. (2016).

In Slovakia, almost 25% of asked companies and organisations turn to external providers for selection and benefits services, and more than 20% for HR information systems and recruitment. The highest rate of full outsourcing hardly exceeds 10% of respondents (10.7%), which relates to training and development, whereas there is no outsourcing for workforce reduction, payroll, pension services and HR call centres for at least 80% of the respondent companies (Table 5).

Table 5. Role of external HR service providers in Slovakia

Slovakia	0 No out- sourcing	1	2	3	4 Full out- sourcing	Total
Payroll	84.7%	6.9%	4.6%	1.5%	2.3%	100%
Pensions	82.1%	8.4%	5.3%	1.5%	2.7%	100%
Benefits	72.1%	12.6%	9.9%	2.3%	3.1%	100%
Training and development	41.6%	13.7%	22.9%	11.1%	10.7%	100%
Workforce reduction/redundancies out- placement	89.7%	4.2%	2.3%	1.9%	1.9%	100%
HR information systems	62.5%	11.9%	12.3%	6.5%	6.9%	100%
Recruitment	60.3%	17.2%	16.8%	3.4%	2.3%	100%
Selection	72.1%	15.6%	9.5%	0.8%	1.9%	100%
Handling management/employee regular enquiries (HR call-centre)	81.9%	9.6%	4.6%	3.5%	0.4%	100%

Source: own compilation based on Poór et al. (2016).

The study also examined the relationship between company size and the use of external service providers in the areas of payroll services, benefits services, training and development services, recruitment and selection.

Based on the results of correlation tests it can be said that in Hungary there is a strong relationship between organisational size and training and development ($r=0.75$), recruitment ($r=0.70$) and selection ($r=0.76$). These results support our initial hypothesis that larger organisations tend to employ external service providers, professionals with specialised knowledge, to carry out these functions. The companies have the necessary knowledge to perform other HR functions. The research revealed that 38% of Hungarian organisations outsource payroll services, which is characteristic of small and medium enterprises. Our analysis of the relationship of company size and the use of external service providers in terms of training and development shows that for large local companies the decision is made in the national centres as a result of the cooperation of company leaders and HR unit leaders.

For Slovakian companies, based on the results of the correlation tests it can be stated that there is a strong positive relationship between company size and payroll services ($r=0.82$) and pension services ($r=0.79$), which means that these HR activities are not outsourced in larger companies, only in small- and medium-sized enterprises. For large companies there is a strong positive relationship with respect to workforce reduction ($r=0.82$). In making decisions about wages and workforce reduction a joint decision is the norm, in which the HR unit leader plays an active role.

It was also examined based on the respondent companies' size, in which areas they used services offered by external service providers. The results support the operation of organisations working in the area of HR advice, the demand for their services. The gained results assist organisations performing advisory service in compiling special portfolios with respect to company size.

In the area of training and development 49% of Hungarian organisations turn to external service providers, typically companies having more than 250 employees. Companies operating with a lower number of staff employ external providers for training and development at a very low rate (3%). At 52.4% of the examined companies the training costs take up 2% of annual wage costs. 20% of the companies spend less than 1% on training and only 15% of organisations spend 3-6% of wage costs on training and development.

In Slovakia 60.0% of organisations use external training and development services, characteristically companies employing a lower number of employees do not use external services. In contrast, one fifth of Slovakian companies with more than 50 employees spend significantly more (5%) on training and development with respect to wage costs.

In Hungarian companies, leaders and intellectual staff took part in training and development services at a higher rate, 7.5-7.6 days. Looking at the rate of training and development in Slovakian companies, employees participate in training programmes at a 50% higher rate than in Hungary, expressed in days (Table 7). For administrative and physical staff the rate of training programme attendance is double, 9.21 days, the Hungarian rates.

In terms of training and development efficiency tests it can be said that the majority (68.4%) of Hungarian respondent companies do not evaluate the efficiency of the programmes. In comparison, in Slovakian companies where the training and development cost efficiency indicators are higher and participants take part in longer trainings, 55.3% of respondents measure and evaluate the return on investments.

Table 6. Relationship companies size and external training and development services

	Hungary		Slovakia	
	Yes	No	Yes	No
1-9 employees	5	11	0	0
10-49 employees	17	17	0	3
50-249 employees	39	48	82	76
250-999 employees	39	38	42	20
1000-4999 employees	28	16	28	6
Over 5000 employees	6	6	1	4
Total	134	136	153	109

Source: own research.

Table 7. Average annual training days

	Countries – Average days	
	Hungary	Slovakia
Manager	7,65	11,16
Professional staff	7,59	13,05
Clerical/manual employees	4,67	9,21

Source: own research.

Table 8 shows how company size influences the use of external service providers in the highlighted HR areas, which provides a more subtle insight on the role of external providers in terms of company size. Regarding Hungarian businesses it can be stated that salaries and payroll related services are outsourced in more than 60% of small and medium enterprises. More than half of medium and large companies use external services in the highlighted HR areas, while businesses having more than 5000 employees use external services at a very low rate (24%), which can be explained by the importance and size of their HR department. In Slovakia only 15% of companies use external salaries and payroll services and 18% use pension-related services. In both countries organisations tend to turn to external service providers in the areas of selection and benefits services. As regards the Slovakian sample, it can be said that the rate of using external providers is higher in companies having 50-250 employees than among large companies.

The hypothesis saying “larger organisations operating an HR department show greater demand for external providers than smaller organisations or organisations lacking an HR department” is partly confirmed, since in both countries certain HR areas are outsourced, whereas other areas are organised and operated within the organisation.

In Hungarian organisations the relationship of the number of training days to the area of operation was examined. The data show that in Hungarian companies operating in the private sector less days are devoted to employee training than in the public sector, despite the fact that the majority of respondents operate in the private sector (Table 9).

Table 8. Relationship between in company size and HR services

	Hungary								Slovakia								
	Payroll		Pensions		Benefits		Selection		Payroll		Pensions		Benefits		Selection		
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
1-9 employees	10	5	8	7	7	8	1	14	0	0	0	0	0	0	0	0	0
10-49 employees	21	13	14	18	8	26	9	25	0	3	1	2	1	2	0	3	
50-249 employees	44	40	34	49	21	64	18	67	27	131	23	135	34	124	32	126	
250-999 employees	30	47	20	52	16	60	21	56	4	58	9	53	15	47	15	38	
1000-4999 employees	20	22	16	26	16	28	13	31	7	27	14	20	22	12	24	19	
Over 5000 employees	2	9	5	7	1	10	1	11	2	3	0	5	1	4	2	3	

Source: own research.

Table 9. Distribution of respondents according to ownership and the annual of average training days

	Hungary		Slovakia	
	Private sector	Public sector	Private sector	Public sector
Domestic owned	78	87	142	21
Foreign owned	90	2	94	2
Average days	17,7	24,3	33,8	32,1

Source: own research.

The hypothesis postulating that “in Hungary the average annual number of training days is higher in the private sector than in the public sector regardless of the company owner-structure” was not confirmed.

Table 9 shows that there is a minimal difference between the two sectors in Slovakia. After carrying out a t-test it can be stated that there is no significant difference in terms of average training days. On this basis the hypothesis saying “in Slovakia the average annual number of training days is higher in the private sector than in the public sector regardless of the company owner-structure” was not confirmed.

CONCLUSIONS

Based on the results it can be concluded that in both countries company size determines the type of external services used. In terms of company size, small and medium enterprises trust external providers with such HR functions, whose performance is influenced by external environmental factors. In contrast, larger companies outsource specialised services, which can be explained by specialised knowledge or the infrequent demand for certain HR services. Specialised knowledge may include organisation of trainings, coaching activities or computer-based learning.

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Requirements of scaling international social enterprises

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Abstract

The paper aims to identify the requirements for social enterprise to scale internationally. The explicit research objective is to explain which requirements enable to scale social ventures internationally with success. The study employs multiple case study analysis based on systematic literature review used to identify papers examining international social enterprises. At total six cases were analysed using criteria of organisational capabilities included in the SCALERS model. The analysis showed that the most significant for scaling social enterprises internationally are: earnings-generation and alliance building; next staffing, communicating, and replicating. The less significant are lobbying and stimulating market forces. Existence of strong business model, neutral from market sources, well-resourced, recognised in public sphere associated with scaling up. The paper contributes by revealing that capabilities for ISEs scaling are differentiated in terms of their significance. Presented results go along with the observation that prior to scaling social impact basic operational model must show its viability.

Keywords: social entrepreneurship; internationalization; scaling; SCALERS

JEL codes: L31, F23

INTRODUCTION

The paper aims to identify the requirements for social enterprise to scale internationally. As most of the scholarship concentrates on national social entrepreneurship good practices and national settings, the issue of internationally operating social enterprises seems to be not-well researched. The 'social' aspect in the context of international entrepreneurship is also not always distinguished in the research (cf. Jones, Coviello, & Tang, 2011; Keupp & Gassmann, 2009). This was the main reason why this topic was chosen for consideration.

The explicit research objective is to explain which requirements enable to scale social ventures internationally with success. For this purpose the SCALERS model was chosen as the analytic framework (Bloom & Chatterji, 2009; Bloom & Skloot, 2010; Bloom & Smith, 2010a). In this exploratory research first the systematic literature review was employed in order to identify papers about international social enterprises (ISEs). At total six cases were recognised and coded according to the SCALERS criteria. These cases are: Benetech, Fairtrade International, KickStart International, Teach for All, Vestergaard Frandsen, and Viva Rio. The most significant factors were established after content analysis based on their joint description in secondary scholar papers.

The papers is structured as follows. First theoretical background was presented about international social entrepreneurship and the SCALERS model. Next the research method and materials are discussed. After it results are presented covering each of the main capabilities derived from the SCALERS model: staffing, communicating, alliance-building, lobbying, earnings-generation, replicating, and stimulating market forces. The limitations of the study and direction of future research are discussed in the last section of the paper.

LITERATURE REVIEW

International Social Enterprises

In spite of growing body of literature about international entrepreneurship (cf. Jones et al., 2011; Keupp & Gassmann, 2009), its social side is still unrecognised. One of the potential reason lies in different nature of social entrepreneurship. Desa notes that 'descriptions of social entrepreneurship differ widely across international contexts from the narrow to the all-encompassing' (Desa, 2012, p. 728). Matching two separate issues: international entrepreneurship (IE) and social entrepreneurship (SE) leads to intersection consisted of social aspect of doing business taken from SE and international taken from IE. The results of this intersection are international social ventures providing blended value, i.e., 'blends of financial, social, and environmental values' and aiming at social change (Zahra, Newey, & Li, 2014, p. 140). The seminal definition of IE was provided by Oviat and McDougall who argued that IE is 'the discovery, enactment, evaluation, and exploitation of opportunities - across national borders - to create future goods and services' (Oviat & McDougall, 2005, p. 250). Other offered definition is based on synthesis of previous scholarship characterises ISE as:

'the process of creatively discovering and exploiting social entrepreneurial opportunities overseas with the application of business expertise and market-based skills, with innovative social goods and services, either with or without profit orientation,

but with the pivotal objective of creating societal value rather than shareholder wealth in the overseas territories where the enterprise functions.' (Tukamushaba, Orobia, & George, 2011, p. 258).

Within this context three aspects influencing the cross-border business are worth to mention: cross-border uncertainty, limited resources, and network dynamics (Sarasvathy, Kumar, York, & Bhagavatula, 2014). It establishes initial set of problems which ISEs must face.

The distinction between for-profit and not-for profit ISE leads to formulate propositions based on literature review (Yang & Wu, 2015). For-profit ISEs choose more safe scaling up mode, while they do not experiment with operational modes focus and the choice of products. Expansion to other countries is based on two grounds: the for-profit ISEs choose those countries where similar environment exists (or customers can be met), while not-for profit ISEs try to answer to similar problems as in original setting.

The literature review on ISEs allows to confer that this kind of business venture is quite new in scholarship although in recent years it has been started to gain interest. This attention was raised mainly due to the project aimed at investigating cross-national setting such as International Comparative Social Enterprise Models (ICSEM) (Abbou et al., 2017; Brouard & Elson, 2014; Defourny & Nyssens, 2017).

There is no official nor unofficial data about the number of operating ISEs. Based on the cases identified for the purpose of this study, discussed in 'methods and material' section, one can conclude that only a few ventures become successful in expanding business internationally. It urges to investigate the reasons of thriving beyond original settings.

The SCALERS model

In this paper I discuss the scaling social impact issue what gains international interest (e.g., Bradach, 2010; Dees, Anderson, & Wei-Skillern, 2004; Galera & Borzaga, 2009; Walske & Tyson, 2015; Weber, Kröger, & Lambrich, 2012; Westley, Antadze, Riddell, Robinson, & Geobey, 2014). But first the meaning of scaling (up) social entrepreneurship needs to be explained. Searching for spreading the impact of social entrepreneurs leads to distinction of dissemination, affiliation, and branching (Dees et al., 2004). These ways of growth are quite well described in literature though framing parts of the most appropriate strategy are still questionable. Other similar expressions are: transferability, replicability, and adaptability (Weber et al., 2012).

Since the last twenty years a new research development proved to be worth to consider as potentially explaining success factors for scaling. Cases described in the literature give one piece of puzzle: number of staff. It spotlights the issue of resources and brings back to discussion the resource-based theory as potentially capable to explain the scaling in social enterprises. Such change happened in KaBOOM! what is an example of the 'bricks-to-clicks' model (Bradach, 2010).

Scaling strategies were grasped by Ch. Weber, A. Kröger, and K. Lambrich (2012). The Authors distinguished four modes: capacity-building, relationship defined by an ongoing agreement, diffusion of knowledge, and one adjacency move (Weber et al., 2012, p. 7). In the context of strategies, the individual decision making path appears as a sign of successful working of basic operational model. It means that first this model must prove its viability.

Residing in the scope of interest in research next issue is driven by the assumption about the place where potential to scaling up appears: inside or outside organi-

sation. Taken the most significant feature of social enterprises – social value provision, the shift from internal to external conditions appears what finally brings mixture of these two approaches.

Currently the most popular model explaining the success of scaling social impact is the SCALERS model developed by Bloom and Chatterji and for the first time explained in 2009 (Bloom & Chatterji, 2009; Bloom & Smith, 2010a). It is still in theory-testing phase and needs confirmation of the validity (Cannatelli, 2017).

The SCALERS model explains a success at scaling social impact as the results of development in seven independent capabilities from which the acronym SCALERS come from, i.e.: Staffing, Communicating, Alliance-building, Lobbying, Earnings-generation, Replicating, and Stimulating market forces in certain situational contingencies (Bloom & Skloot, 2010, p. 5). As the components of the SCALERS model are well described in mentioned sources, only short presentation will be given (see Table 1). The SCALERS model stresses importance of external environment. It assumes that organisation's success depends on its ecosystem. The situational contingencies are: labour needs, public support, potential allies, supportive public policy, start-up capital, and dispersion of beneficiaries. For the presented study it is important to note that success in scaling does not depend on excellence in all indicated by the model factors (Bloom & Smith, 2010a, p. 14). In fact it could vary.

In this paper the research subject constitutes international social organisations which have already succeeded in scaling. In the SCALERS questionnaires the interviewers are asked to evaluate own organisation's performance for the last three years and with comparison to other organisation (Bloom & Smith, 2010a, p. 25). It is also a limitation of this study as established descriptions were adjusted to particular category not related to other organisations. It can be justified by international character of the research subjects as it would be not suitable to match up to any other ISE.

Table 1. The description of the SCALERS drivers

Driver	Depending situational contingency	Explanation
1. Staffing	labour needs	Hired staff (employees or volunteers) possessing necessary skills for given job positions
2. Communicating	public support	Successful persuading key stakeholders (donors, own personnel, beneficiaries, consumers, general public) to support organisation in its change
3. Alliance-building	potential allies	effectiveness in creating partnerships (coalitions, joint ventures, etc.)
4. Lobbying	supportive public policy	gaining support from public administration institutions in introducing change
5. Earnings-generation	start-up capital	having revenue exceeding organisation's expenses
6. Replicating	dispersion of beneficiaries	reproducing (copying) the programs and initiatives
7. Stimulating market forces	availability of economic incentives	creating incentives to convince pursuing social interests by people and institutions

Source: own elaboration based on (Bloom & Smith, 2010a, pp. 12–17).

MATERIAL AND METHODS

The methodology used for this research belongs to comparative analysis based on multiple case study approach. The analysed data come from a systematic literature review (SLR). The SLR was performed in order to identify papers examining international social enterprises. First we applied queries using phrases ‘international social enterprise*’ and ‘international social entrepreneur*’ in abstract and full body of the full-text papers indexed in journals databases: EBSCO host, Scopus, Science Direct and Web of Science what gave in total 1235 articles. Elimination of duplicates provided 248 papers. Next we performed content analysis of each of the paper. This phase of research resulted in excluding 198 ones as not referred to the topic ‘social enterprise/entrepreneurship’ working internationally. Finally 50 papers were qualified for thorough analysis. This phase resulted in identification of six cases included in detailed analysis using the SCALERS model. The reasons to reject papers from further examination were: not covering particular ISE enabling to evaluate it according to the accepted model, dealing with internationalisation of SE but without references to factual enterprise, describing only hypothetical venture. Figure 1 depicts the procedure of selecting these cases and Table 2 contains short description of them.

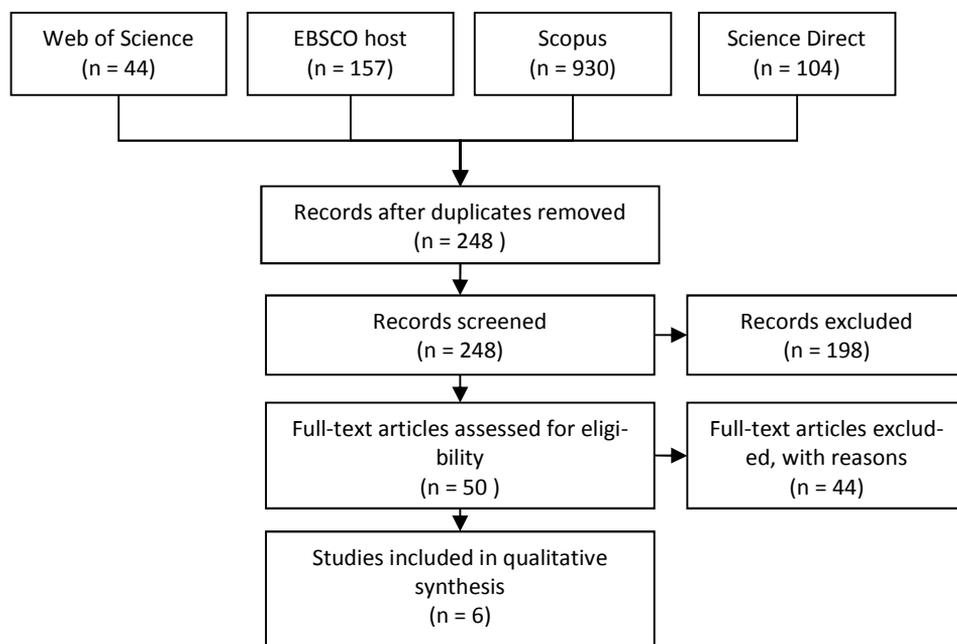


Figure 1. Stages in studies selection process

Source: own elaboration.

The described cases come from recent papers (2012-2016). It supports inference about novelty of undertaking problem although the ISEs have been operating since '90s. What these ISEs have in common is putting above social aim which is helping disadvan-

taged people. As the main purpose of the paper is to concentrate on drivers, the detailed presentation of each company was omitted.

Table 2. Description of ISEs included in the research

No.	Name of ISE	Year of est.	Country of origin	Business domain	Area of operation	Source
1	Benetech	1989	USA	reading machine for blind people	worldwide	(Desa, 2012)
2	Fairtrade International	2004	Germany	certification of fair trade standards	worldwide	(Bennett, 2016)
3	KickStart International	1991	USA	irrigation technology	Africa	(Galvin & Iannotti, 2015)
4	Teach for All	2007	USA	education	worldwide	(Friedrich, 2014)
5	Vestergaard Frandsen	1957	Suisse	products for disadvantaged people	worldwide	(Agrawal & Gugnani, 2014)
6	Viva Rio	1993	Brasil	preventing violence	Brasil, Haiti	(Davis, 2016)

Source: own elaboration.

Based on the content analysis of identified articles I have coded particular phrases referring them to scaling social enterprises operating internationally. As codes I used names of organisational capabilities included in the SCALERS model. Analysis of each case showed lack of information about each of detailed criteria incorporated in the SCALERS model. Therefore the following data treatment was used. For each of the measure the depiction from particular case was inserted and marked with numbers (in brackets) from Table 2 what allows to trace to which case they refer to. The further analysis is done separately towards each of the seven drivers.

RESULTS

The first capability in the SCALERS model refers to Staffing (table 3). It starts with meeting labour needs with skilful people. In this area there is a lack of full explanation about it. We can conclude then having own workers was just a core, a base for operating the company, while operating business requires trained workers and in two examined cases such inference can be drawn. The second criterion in the Staffing refers to availability of capable volunteers. In two identified cases the access was limited and ISE was based on full-time workers. The last condition pertains to possessing proper skills by managers to scale up. In this field we can observe having skilful managers in four cases. Their competences were secured thanks to selection procedures. Overall we can state about general importance of staffing in ISEs with strong emphasis on formal HRM practices aimed at possessing competent workers.

The second part of the SCALERS is Communicating which can be expanded to external communication and public relations. The first point is about communicating to key stakeholders. Examples derived from three cases proved that the branding was crucial.

For that purpose ISEs used classical advertisement means such as ads and campaigns with the goal to create the image of professional organisation, worth to trust. The next section pertains to informing the individuals. Here the same tools as in previous part was used, altogether with a mass communication (declared in the one case). The last communication is aimed at donors. In two cases we see strong commitment to taking part in international venues showing transnational orientation of the social enterprises. Taken as a whole this organisational capability presents as important for ISEs (see Table 4).

Table 43. Staffing in international social enterprises

Staffing	Examples
Effective meeting labour needs with people who have the necessary skills.	not fully explained; only mentioned that there was not strong leadership (2) selected top university graduates without any previous pedagogical course work (4) organisation's staff working together with local trained staff (5)
An ample pool of capable volunteers available to help us meet our labour needs.	mostly based on full-time workers (5) in replication the volunteers were engaged in the project (6)
Individuals in management positions who have the skill to expand our organization, program or principles.	specialised skills but also volunteers (1) operating own internal monitoring department in order to measure outcomes on the lives of buyers (3) the selection procedures of the corps members (4) using a public relations team, organisation created publicized partnerships (6)

Source: own elaboration.

Table 4. Communicating in international social enterprises

Communicating	Examples
Effective at communicating what we do to key constituencies and stakeholders.	operate in politically unstable countries (1) ads (4) the ability to create and circulate a broadly defined group identity that appeals to multiple sets of potential supporters (6) brand itself as a development subcontractor specializing in community-based interventions within precarious regions (6) communication campaigns to spread word of their struggles to commiserating international audiences (6)
Successful at informing the individuals we seek to serve about the value of our program for them.	using billboards in target counties (2)
Successful at informing donors and funders about the value of what we do.	very successful at branding itself as a transnationally oriented NGO that can work in multiple local contexts (6) very active in a variety of international civil society meetings and summits in Brazil and beyond (6)

Source: own elaboration.

The third part of the SCALERS refers to partnership and is called 'alliance-building'. It starts with successful partnership building with win-win situations. It can be a form of receiv-

ing donation of unnecessary equipment for the donors or supporting activities with the same social aim. Cooperation with others in new initiatives exists, but it was not often reported. Nevertheless it appears to be more frequent in undertaking everyday actions (Table 5).

Table 5. Alliance-building in international social enterprises

Alliance-building	Examples
Built partnerships with other organizations that have been win-win situations for us and them.	<ul style="list-style-type: none"> • received donations of the hardware which were not necessary for giving company (1) • reaction to the call for projects which allowed to funding organisation realised its goal while ISE created image as leading company in operating in developing world (5) • build strong connections with local NGOs instead of focusing on single issues (6) • co-sponsorship of other NGO projects in the country (6) • financing other actions or projects which have similar goal (6) • networking with large NGOs has provided strong support (6)
Rarely try to 'go it alone' when pursuing new initiatives.	<ul style="list-style-type: none"> • collaboration with other organisation working in the same areas (human rights groups) (1) • launching a project with other partners (5)
Accomplished more through joint action with other organizations than we could have by flying solo.	<ul style="list-style-type: none"> • working with other NGOs and foundations (1) • cooperation with country government workers (5) • absorbing benefits from collaboration on the relationship between building ties with local communities and assessing what type of intervention the community requires (6)

Source: own elaboration.

The Lobbying, the fourth section of the SCALERS model, was not expressed often in the examined texts. We can reason that lobbying partially is covered by public-partner partnerships. In the area of engaging government agencies for financial support was perceived as recognition that official agencies were not successful to solve given problem as ISEs were. No observation was made about creating legal frameworks supporting ISEs activities in identified cases. The last part of lobbying is about rising the cause to a higher place on public agenda. One observation proved that it has happened through escalating the problem to international audience who put pressure on local government (Table 6).

The fifth part of the SCALERS models is Earnings generation. Deducing from the number of phrases referring to this topic, we can state that it is important issue for ISEs. First section describes stream of revenues from selling. Due to financial situation of the customers whose buying potential is weak, the sale is subsidised by donors (private or government). In one case the customer's credit was introduced. The second segment of earnings-generation reflects donors and funders who have been major sources of revenue. It is strongly true in investigated companies. Next factor, ways to finance ISEs activities, also found clear evidence as showed by the case of Viva Rio. It was claimed that evolution from local to national to transnational NGO has been facilitated by sizable grants from large multilaterals, national governments aid programs, international foundations, CSR actions, and sizable allocations from municipal and state governments (Davis, 2016). The ability to find difference sources of finance seems to be the crucial ISE's capabilities (Table 7).

Table 6. Lobbying in international social enterprises

Lobbying	Examples
Successful at getting government agencies and officials to provide financial support for our efforts.	<ul style="list-style-type: none"> • Showing that undertaken action brings financial benefits for the government (5) • Showing that organisation can successfully act in areas where others institutions do not. Proving access to these areas (6)
Successful at getting government agencies and officials to create laws, rules, and regulations that support our efforts.	–
Able to raise our cause to a higher place on the public agenda.	<ul style="list-style-type: none"> • Through convincing strong partners to pressure from international audience on local authorities (6)

Source: own elaboration.

Table 7. Earnings-generation in international social enterprises

Earnings-generation	Examples
Generated a strong stream of revenues from products and services that we sell for a price.	<ul style="list-style-type: none"> • customers credit (1) • not so important comparing to legitimacy. (2) • heavily subsidized through donor financing (3) • each local 'Teach for ...' program is funded by public-private partnerships. • support through grants from the governments of countries where ISEs operate (4) (5)
Cultivated donors and funders who have been major sources of revenue for us.	<ul style="list-style-type: none"> • Business partners allowed for delayed payments (1) • Tentativeness to achieve financial independence from grants and donations (3) • Grants funding from a couple of donors (3) • Using reputation and companies' CSR budgets for sponsorship many such programs (4) • Using funding from the city government (6)
Found ways to finance our activities that keep us sustainable.	<ul style="list-style-type: none"> • sold business (1) • financing coming from grants, (3) • venture philanthropy 'microlending' (4) • evolution from local to national to transnational NGO has been facilitated by finance from difference source (6)

Source: own elaboration.

Second to last driver for scaling social enterprises is Replication. Products or services offered by identified companies showed to work effectively in multiple locations or situations as the name of the first factor indicates. Their products proved to function in different countries or – after adaptation – in different situations. For example reading systems working in English operates also in other languages (case #1). Solution elaborated for preventing violation become base for manual, guidebook (case #6). These illustrations show operational modes focused on product/service transactions between countries. They assume universal nature of problem for fighting with. Only the scale of occurrence of the issue demonstrates solutions usefulness. Next point in replication is its ease. This issue is complex as some products/service depends on individual attitude of customers who is willing to take benefit from

it. It is especially visible for mindset changes but thanks to elaborated procedures, programmes, and guidebooks, replication understood as launching the product in new environment is quite easy. The description of controlling and coordinating programs in multiple locations is missing. In one case we can point out such possibility (Table 8).

Table 8. Replicating in international social enterprises

Replicating	Examples
'Package' or 'system' that can work effectively in multiple locations or situations.	<ul style="list-style-type: none"> • reading systems for the blind first for English, then outside the US (1) • the products aimed at preventable diseases in developing countries (5) • publication of 'Youth at Risk: The Fight for Peace Methodologies Manual', a guidebook for combining sports and civic education that has been translated into six languages (6) • creation of eight permanent environmental protection centres that offer training classes on conservation, recycling, gardening, and ecotourism and include greenhouses in which to cultivate seedlings to be replanted (6)
Easy to replicate our programs.	<ul style="list-style-type: none"> • individual-led change is a central element in the appeal of the Teach for All model for potential recruits (4) • Viva Rio's experience worked with transnational gun-control organisations (6)
Successful at controlling and coordinating our programs in multiple locations.	<ul style="list-style-type: none"> • launching or providing support for a series of community-based initiatives in favelas (6)

Source: own elaboration.

The last part of the SCALERS model is Stimulating market forces. This element was less often recorded in investigated cases. Only individual instances appear for sub-criteria; in one case even none. Therefore it is difficult to 'demonstrate that business can make money through supporting ISEs' activities'. In the case #1 it was possible to prove the business as for-profit is possible. In the next issue the approach applied in case #3 is interesting as it emphasises not product by itself but the final result to which this product contributes. The last topic – able to trust market forces to help resolve social problems – was not covered in papers describing cases (Table 9).

Table 9. Stimulating market forces in international social enterprises

Stimulating market forces	Examples
Able to demonstrate that businesses can make money through supporting our initiatives.	in the absence of supportive institutional environments (1)
Able to demonstrate that consumers can save money through patronizing our products and services.	the product is not the pump but rather a successful, rural family enterprise (3)
Able to trust market forces to help resolve social problems.	–

Source: own elaboration.

Based on the above descriptions of each organisation capabilities we can evaluate its significance. The table 10 shows the result of such analysis. Each sub-criterion was marked as: not much significant (+), just significant (++), and very significant (+++).

Where there was no note about given topic then the question mark was used (?).

We can notice that some of the criteria in a given group are more significant comparing to others. Trying to generalise this finding the following inferences can be drawn. There is a differentiation in sub-criteria in each main the SCALERS's capability. The most consistent evaluation is in earnings-generation and alliance building. The next almost coherent evaluation appears in communicating and stimulating market forces. The rest drivers have got diverse significance such in the case of staffing and replicating.

Table 10. Significance of capabilities for scaling international social enterprises

	Significance
Staffing	
Effective meeting labour needs with people who have the necessary skills.	+
An ample pool of capable volunteers available to help us meet our labour needs.	++
Individuals in management positions who have the skill to expand our organization, program or principles.	+++
Communicating	
Effective at communicating what we do to key constituencies and stakeholders.	+++
Successful at informing the individuals we seek to serve about the value of our program for them.	+
Successful at informing donors and funders about the value of what we do.	+++
Alliance-building	
Built partnerships with other organizations that have been win-win situations for us and them.	+++
Rarely try to 'go it alone' when pursuing new initiatives.	++
Accomplished more through joint action with other organizations than we could have by flying solo.	+++
Lobbying	
Successful at getting government agencies and officials to provide financial support for our efforts.	++
Successful at getting government agencies and officials to create laws, rules, and regulations that support our efforts.	?
Able to raise our cause to a higher place on the public agenda.	+
Earnings-generation	
Generated a strong stream of revenues from products and services that we sell for a price.	+++
Cultivated donors and funders who have been major sources of revenue for us.	+++
Found ways to finance our activities that keep us sustainable.	+++
Replicating	
'Package' or 'system' that can work effectively in multiple locations or situations.	+++
Easy to replicate our programs.	++
Successful at controlling and coordinating our programs in multiple locations.	+
Stimulating market forces	
Able to demonstrate that businesses can make money through supporting our initiatives.	+
Able to demonstrate that consumers can save money through patronizing our products and services.	++
Able to trust market forces to help resolve social problems.	?

Source: own elaboration.

In order to receive more general view on scaling ISE the qualitative scale was re-scaled using the scale 1-3-5. The final picture of averages for each of main organisation's capabilities is depicted on Figure 2. From this illustration the most significant for scaling social enterprises internationally are: earnings-generation, and alliance building. Second group of drives constitutes staffing, communicating, and replicating. The less significant are lobbying and stimulating market forces.

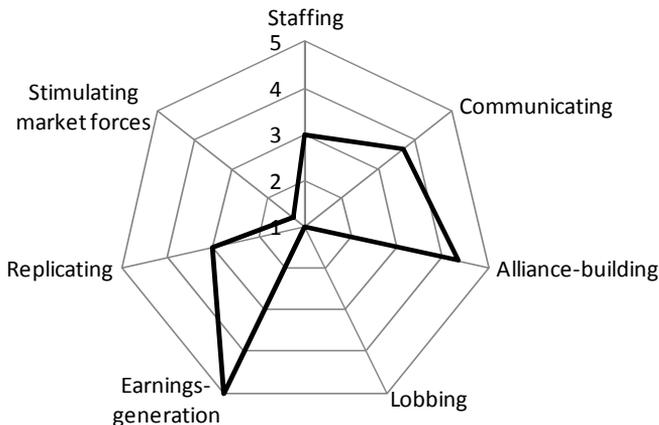


Figure 2. Significance of the SCALERS dimensions for international social enterprise

Source: own elaboration.

DISCUSSIONS AND CONCLUSIONS

Presented results go along with the observation that prior to scaling social impact basic operational model must show its viability (Weber et al., 2012). In each case, the beginning of expanding operation into foreign countries was done after success in the country of origin.

Capabilities for ISEs scaling are differentiated in terms of their significance. It supports Bloom and Smith's comment that the appearance of capabilities is not set and 'in some situations, effective deployment of all the SCALERS may be needed for successful scaling' (Bloom & Smith, 2010b, p. 13). In the case of ISEs this observation was proved with limitations described in the next part of the paper.

We note differentiation what allows to conclude about existence of strong business model, neutral from market sources, well-resourced, recognised in public sphere associated with scaling up. The last issue covers three dimensions (communicating, lobbying, and alliance buildings). It refers to embeddedness which is understood as 'the nature, depth and extent of an individual's ties into the environment' (Jack & Anderson, 2002) and transposed to a level of organisation means 'the degree of connection and interaction with local actors or stakeholders in the community' (Yang & Wu, 2015, p. 39). We observe rather strong significance of alliance building and communicating together with weak lobbying. Albeit these terms are interrelated, these antecedents for scaling up were included in earlier studies on this phenomenon as part of political skills embracing: coalition formation, networking, advocacy, and lobbying (Frances & Antadze, 2010).

Strong significance of earnings-generating comes from all six cases included in the study. We can notice different approaches in this area due to type of ISE (for-profit/not for-profit). Inclusion of this aspect in description of each case corroborates its significance. It is one of the main feature of social enterprise which expresses its hybridity (Doherty, Haugh, & Lyon, 2014).

Staffing was also found as significant factor. It is linked to proposition about existing correlations between the managerial global vision elements and the company internationalisation scale (Kowalik, Danik, Král, & Řezanková, 2017).

The less visible factor for ISE in scaling up is stimulating market forces. It would be false to state that this element was absent, but it was not fully reported. Provision of products by ISEs captured in the study relates to at least two of sub-criteria. Especially in case #3 it is exemplified as for the company not selling goods is its main business logic, but to offer through its product development of family enterprise. This observation guides us to the limits of the study described in the last section of the paper.

LIMITATION AND FURTHER RESEARCH

The research described in the paper as every kind of scientific procedure has its own limitations. To the main one I count relying solely on secondary data taken from papers picturing cases with different aims than one established in this article. Another limitation is due to conducting coding by myself what could increase the risk of subjective evaluation of data which could lead to discrepancies and fault conclusions. The next limitation stems from merging descriptions of different organisations which were treated as one case.

Limitations pointed out above can be overcome by the following directions of future research. First, it is recommended to collect primary data from ISEs which scaled up successfully using structured forms like the SCALERS model. Next suggestion is to analyse data by a team of researchers whose cooperation will strengthen internal validity thanks to triangulation used. Third, the scaling process should be reconstructed and attempt to investigate the influence of national settings on scaling up.

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A literature review on firms' internationalisation through e-commerce

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Abstract

The rise of e-commerce has brought considerable changes to the relationship between firms and consumers, especially within international business. Hence, understanding the use of such means for entering foreign markets has become critical for companies. However, the research on this issue is new and so it is important to evaluate what has been studied in the past. In this study, we conduct a systematic review of e-commerce and internationalisation studies to explicate how firms use e-commerce to enter new markets and to export. The studies are classified by theories and methods used in the literature. Moreover, we draw upon the internationalisation decision process (antecedent-strategies-consequences) to propose an integrative framework for understanding the role of e-commerce in internationalisation. We believe that the literature review will be a picture of the "status quo" and provide a useful basis for scholars and managerial decisions.

Keywords: e-commerce; international business strategies; literature review; entry mode decisions.

JEL codes: F23

INTRODUCTION

This paper develops at the intersection between two important drivers for firms' strategies: e-commerce and internationalisation. The concept of e-commerce has emerged since the second half of the '90s and is related to various themes, such as its importance as a channel, its impact on consumer behaviour and on firms' internationalisation strategies. Unlike traditional trade, where consumers interact with salespersons, e-commerce involves online communities and reviews and user-generated content. In addition, products online are always available, and sites usually sell goods that are difficult to find in traditional stores. It has been argued that nowadays such proliferation of channels for selling products and communicating with customers inevitably influence business models and consumer behaviours and demands (Aiello, 2017).

Nowadays, e-commerce is the subject of various studies. For instance, prior research has linked its use to the development of faster and simpler internationalisation strategies and to its benefits even for small businesses (Ajmal & Yasin, 2012; Bell & Loane, 2010; Sinkovics et al., 2013; Bianchi & Mathews, 2016; Johanson & Kalinic, 2016). Some researchers posit that information available on websites and reviews are an important source to select an adequate marketing mix (Yamin & Sinkovics, 2006). Kumar et al. (2016) showed that the use of e-commerce from firms is critical in driving the remaining "bricks-and-mortar" to use the Internet to enter foreign markets. Dickinger and Stangl (2013) stated that the sites enable firms to engage with consumers in new ways; hence, companies should shift marketing strategies from attracting consumers' awareness in the pre-purchase stage to connect with consumers after their purchases.

It is important to study the process and uniqueness of how firms behave in the context of e-commerce in order to internationalise. Although we are witnessing an increasing interest in this subject, the research is still fragmented. Such scenario makes it difficult to draw conclusions about e-commerce and firms' internationalisation.

The purpose of this paper is to conduct an extensive review of the literature on e-commerce firms' internationalisation in order to trace the status quo of the studies on this subject and identify interesting new research areas. The main aim of the research consisted of identifying papers on the subject, analysing the methods and theories used in the past, and finally summarising the findings in the antecedent-strategy-consequence approach. We argue that this framework can provide a useful foundation for future e-commerce research.

The paper is organised as follows. First, we discuss the definition and scope of e-commerce for internationalisation. Second, we explain our review method to identify and collect the studies on e-commerce for internationalisation and summarise findings in several aspects. Third, we propose a theoretical framework for understanding firms' behaviour in this context and providing a basis for future e-commerce and internationalisation research. Finally, we discuss the implications, opportunities for future research, and the limitations of our work.

E-COMMERCE FOR INTERNATIONALISATION

E-commerce refers to the purchase and sale of goods and/or services via the Internet (Ramanathan, 2010). Parvinen et al. (2015) define e-selling as an activity that comprises the use of interactivity human-computers. E-commerce was first introduced in the 1960s and grew with the increased availability of Internet access and the advent of online sellers. For example, Amazon began operating as a book seller in 1995. Like any digital technology, e-commerce has evolved over the years.

Prior research has broadly characterised it with two elements: the benefits derived from it for both big and small business, and the help it gives to the internationalisation process. However, a closer look at the e-commerce concept reveals that it is associated with many inconsistencies. Studies show that the Internet has a positive effect on firm information availability and the development of business networks in international markets, as well as an improvement in firm performance (Bianchi & Mathews, 2016; Mathews et al., 2012; Caputo et al., 2007). However, accumulating such resources is not enough to achieve a competitive advantage (Teece et al., 1997), and investments in information and communication technology may not advantage firms (Camison & Villar-Lopez, 2014), as Internet technology is an easily imitable resource. Sedera and Dey (2013) show that the exploitation of Internet value requires embedding it in organisational practices and processes or using it together with other resources. Trainor et al. (2014) examine the value of technology resources and find that the impact of the Internet on other complementary capabilities positively influences firm performance because it affects customer retention and satisfaction.

Recent research identified two major types of foreign e-commerce: firms' own sites that sell and advertise in foreign and domestic market and traditional e-commerce market-spaces by which foreign firms enter new markets and are facilitated in social interaction, advertising, logistics (Chen & Lamberti, 2016; Klein et al., 2011). Wang and Cavusoglu (2015), and Klein et al. (2011) focus on the importance of the intermediaries and marketplaces as mediators between customers and suppliers in order to reduce information asymmetries.

Hilmersson and Johanson's study (2016), applying an internationalisation model to small and medium-sized firms, states that global business is rapidly evolving into a bilateral market (physical and virtual), with boundaries between the two becoming indistinct.

LITERATURE IDENTIFICATION AND COLLECTION

We adopted a systematic approach to identify relevant articles about firm internationalisation and e-commerce. The identification of the journal articles consists of two methods: first, we selected a different number of databases (Emerald, JSTOR, Ebsco, ScienceDirect) and we searched these databases using the following keywords: internationalisation, e-commerce, online shopping, e-business, and digital marketing. Second, we checked important journals to ensure that we did not miss relevant articles. This method is consistent with Cheung and Thadani's (2012) work on reviewing the literature of eWOM communication, and Zhang and Benyoucef's (2016) work on reviewing the literature of consumer behaviour in social commerce.

A similar exploration was conducted on Information Systems and e-commerce journals, like Marketing Science, Management Science, Decision Support Systems, Electronic Commerce Research, Electronic Commerce Research and Applications, and International Journal of Electronic Commerce, as well as international marketing and business journals such as Journal of Marketing, Journal of International Marketing, International Marketing Review, Journal of Business Research, International Business Review and Journal of International Business Studies.

The approach we used to crosscheck and validate the articles involves selecting the articles and examining abstract, title and content of the articles manually (Zhang & Benyoucef, 2016; Ngai & Gunasekaran, 2007). Two selection criteria have been used to select the articles: (1) focus on firms' internationalisation behaviour and (2) examination of the effect of virtual presence on internationalisation performance.

Such selection process allowed us to identify and collect significant peer-reviewed journal articles regarding firms' internationalisation by means of e-commerce.

According to Ngai and Gunasekaran (2007), many articles were excluded because of the nature of the research field (e-commerce) which has emerged particularly since 2004 and the importance of internationalisation in the field. We have only considered research articles published from 2004 to 2017, and we have excluded conference papers, master's and doctoral dissertations, textbooks, and unpublished working papers.

Finally, a total of 69 articles were gathered for our literature review. As shown in Figure 1, a lot of articles were published in 2016, so we expect that more studies are likely to appear in the coming years.

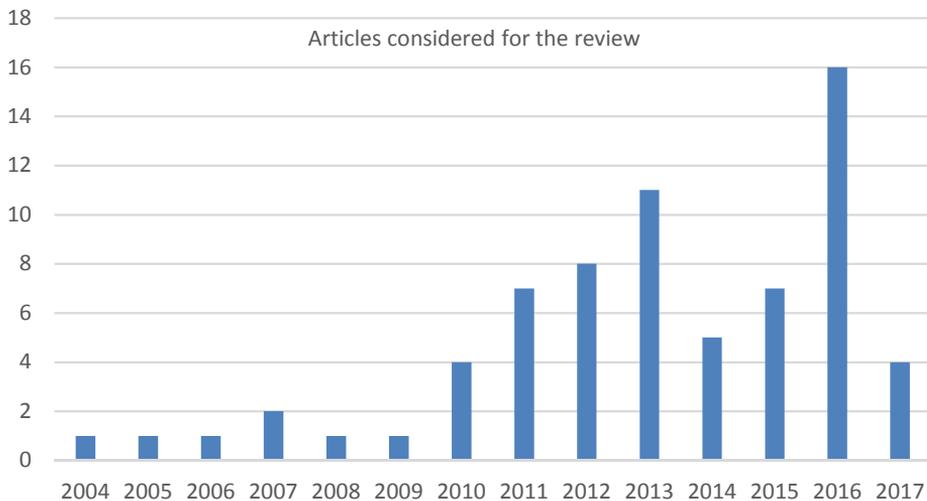


Figure 1. Publication timeline of the literature

Source: own elaboration.

Table 1 shows a list of the journals considered, suggesting that they have an interest in publishing in such an area. *Decision Sciences* (n=6), *International Business Review* (n=6) and *Journal of Business Research* (n=7) are the three journals with the highest numbers of published articles.

Table 1. List of journals considered

Journals	Number of articles	Studies
<i>Business Process Management Journal</i>	4	[16]; [48]; [64]; [69].
<i>Decision Sciences</i>	6	[11]; [19]; [29]; [34]; [35]; [67].
<i>Decision Support Systems</i>	2	[39]; [64].
<i>Economics of Innovation and New Technology</i>	3	[38]; [42]; [65].
<i>Electronic Commerce Research</i>	3	[22]; [56]; [61].
<i>Electronic Commerce Research and Application</i>	3	[26]; [30]; [55].
<i>Enterprise Information Systems</i>	1	[36].
<i>Information & Management</i>	2	[23]; [54].
<i>International Business Review</i>	6	[6]; [21]; [50]; [52]; [57]; [68].
<i>International Journal of Electronic Commerce</i>	3	[33]; [49]; [62].
<i>International Journal of Innovation, Management and Technology</i>	1	[1].
<i>International Journal of Management Review</i>	1	[66].
<i>International Marketing Review</i>	2	[45]; [58].
<i>International Small Business Journal</i>	3	[5]; [32]; [48].
<i>Journal of Business Research</i>	7	[8]; [10]; [16]; [18]; [24]; [37]; [46].
<i>Journal of Business Venturing</i>	2	[51]; [60].
<i>Journal of Global Marketing</i>	1	[44].
<i>Journal of Information Technology</i>	2	[20]; [41].
<i>Journal of International Business Studies</i>	4	[2]; [9]; [12]; [14].
<i>Journal of International Entrepreneurship</i>	2	[4]; [40].
<i>Journal of International Marketing</i>	1	[25].
<i>Journal of Internet Business</i>	1	[3].
<i>Journal of Internet Commerce</i>	1	[28].
<i>Journal of Marketing Management</i>	3	[7]; [17]; [43].
<i>Journal of Strategic Marketing</i>	1	[13].
<i>Management International Review</i>	3	[27]; [31]; [53].
<i>Social and Behavioral Sciences</i>	1	[59]
TOTAL	69	

Source: own study.

REVIEW OF THE STUDIES

To guide our review of the studies, we consider three major questions: (1) What theories were adopted? (2) What research methods were used? And (3) What important factors were studied to understand the role of e-commerce in internationalisation?

These questions are in line with the previous literature and are the right path for the literature review classification and synthesis (Hoehle et al., 2012; Zhang & Benyoucef, 2016). We discuss the first two questions in this section and the third one in the next section with the discussion of an integrative framework.

Theories

We have divided the theories into three different groups because of their issues. We distinguish the theories used to explain the adoption of technology and the others linked to the internationalisation process.

According to the studies dealing with technology adoption and the risk perceived by firms in adopting such means, we recall (Sila, 2013; Peltier et al., 2012; Grandon et al., 2011; Kurnia et al., 2015):

- Diffusion Theory: this includes several innovation characteristics such as relative advantage, complexity, compatibility, observability, and trialability that may either promote or hinder the IT adoption;
- TOE framework: this includes three types of factors that predict innovation adoption in addition to leader characteristics, internal characteristics of the organisation and external characteristics of the organisation;
- Technology Acceptance Model (TAM): this investigates adoption antecedents such as social influences, perceived usefulness, and perceived ease of use;
- Theory of Reasoned Action and Theory of Planned Behaviour: both theories hypothesise that an individual's intention to shop/sell online is a determinant of that behaviour.

To understand firms' internationalisation by e-commerce, prior studies have adopted many theories. The articles show that transaction cost theory, the resource-based view, and the OLI paradigm are the most adopted in the literature, in relation to the firms' internationalisation. First, there is an interest in investigating what firms' motives, benefits, and values are in this setting, and theories such as transaction-cost are used to explain these issues. According to the transaction-cost theory, firms may be able to reduce different costs and improve the capability of finding new customers. The Internet enables the reduction of costs linked to the orders (Brouthers et al., 2016) and it eliminates the errors that frequently occur with human processors. Moreover, the overall cost of maintaining a virtual store is far less than that of a brick-and-mortar (Verhoef et al., 2015).

Second, the resource-based view (RBV) links firm performance to organisational resources and capabilities. In the IS literature, it has been used to explain how firms create value from IT assets and an organisation's skills to power IT assets (Perrigot & Penard, 2013; Wiengarten et al., 2013). From this theory, it is how firms leverage their investments in IT and e-commerce to create unique Internet capabilities that determine a firm's performance (Brouthers et al., 2016; Schu et al., 2016; Sila, 2013; Xia & Zhang, 2010).

Third, some studies used the OLI paradigm in order to explain firms' internationalisation through e-commerce. The theory describes a corporation's choice of location and internationalisation method in relation to the specific advantages the company gains from foreign activities. Ownership advantages represent competitive advantages, which are created through the firm's international experience (Brouthers et al., 2016; Alcacer et al., 2016). It is argued that a specific resource is represented by the Internet and its infrastructures. Locational advantages are certain elements associated with market risk and potential. Lastly, internalisation advantages are related to competitive strengths gained from integrating operations compared to using an external operator.

Table 2. Theoretical foundations in literature

Theories	Studies
Diffusion Theory	[11]; [16]; [37]; [48]; [56]
TOE framework	[56]
Technology Acceptance Model	[18]; [23]; [37]; [48]
Theory of Reasoned Action/Theory of Planned Behaviour	[18]; [23]; [24]; [37]
Transaction Cost Theory	[9]; [14]; [33]; [58]
Resource-based view	[3]; [5]; [8]; [10]; [11]; [25]; [33]; [49]; [56]; [57]; [58]; [64]; [66]; [67]; [69]
OLI paradigm	[2]; [9]; [38]; [50]

Source: own study.

Research methods

Previous studies have adopted different methods to analyse the phenomenon of internationalisation through e-commerce (Figure 2). According to Hoehle et al. (2012), empirical methods can be qualitative or quantitative. Qualitative methods (e.g., the netnographic approach and focus group) analyse descriptive data in order to describe the environment. Conversely, quantitative methods (e.g., survey and experiment) collect and analyse numerical data. Both of them have been adopted in the studies we collected. Further, a high proportion of the studies adopted the quantitative survey method and the panel data analysis.

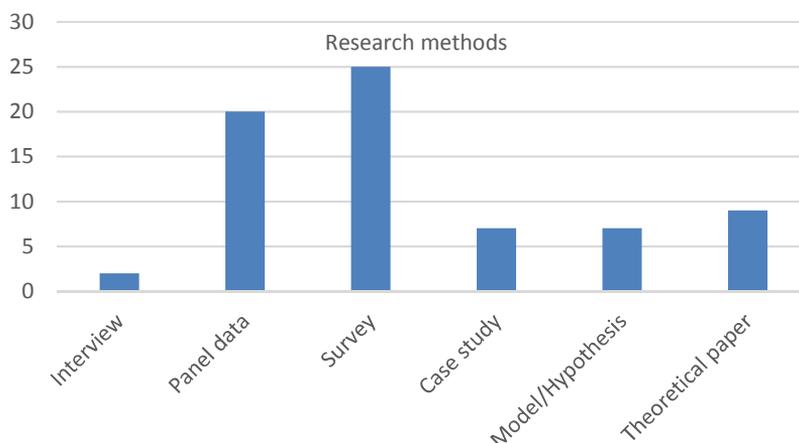


Figure 2. Research methods in the literature

Source: own elaboration.

AN INTEGRATIVE FRAMEWORK FOR E-COMMERCE FIRMS' INTERNATIONALISATION

To guide our review of the studies, we consider antecedents, strategies, and consequences of the firms' decision to internationalise by e-commerce. The first element deals with "why" the firm internationalises through online means; the second element an-

swers the question of “how” the firm internationalises (how the firm uses such online channels); and finally, the third element refers to the performances of internationalising e-firms. Figure 3 depicts an overview of the framework. Details of its theoretical background and important components and factors are discussed below (Elbanna et al., 2013; Hitt et al., 2006; Carpenter et al., 2004).



Figure 3. Framework for firm internationalisation in e-commerce

Source: own elaboration

Table 3 depicts the three factors identified in our literature review and classifies the studies by the three stages of decision-making.

Table 3. Stages associated with firm internationalisation

Stage	Definition	Studies
Antecedents	Firms' reasons to move abroad	[1]; [11]; [13]; [14]; [16]; [21]; [22]; [23]; [24]; [25]; [30]; [37]; [44]; [45]; [48]; [49]; [50]; [56]; [60]; [63]; [65]
Strategies	Firms' decision about mode of entry	[1]; [2]; [4]; [7]; [9]; [11]; [12]; [14]; [17]; [18]; [25]; [28]; [29]; [31]; [33]; [34]; [41]; [43]; [45]; [47]; [51]; [52]; [54]; [55]; [60]; [61]; [62]; [66]; [68].
Consequences	Firms' internationalisation performances	[2]; [3]; [4]; [5]; [6]; [7]; [8]; [10]; [11]; [15]; [16]; [18]; [19]; [20]; [21]; [22]; [26]; [27]; [28]; [29]; [30]; [32]; [33]; [34]; [35]; [37]; [38]; [39]; [40]; [41]; [42]; [44]; [45]; [55]; [57]; [61]; [64]; [66]; [67]; [68]; [69].

Source: own study.

The three described stages are presented in more detail in the following paragraphs.

Antecedents

Studies in the antecedent literature examine firms' decisions to use online channels to enter foreign markets. In particular, such studies identify several antecedents that move the firm to adopt online channels to enter foreign markets. For example, Ajmal and Yasin (2012) find that the choice of e-commerce adoption by SMEs depends on several factors: organisation and management capabilities, development of technology, implementation, government support, and trust. According to Chen and Lamberti (2016), the Internet is a useful way to internationalise for small and medium-sized enterprises because of the reduced costs, the breadth of market coverage, and because of the speed in obtaining information. Other authors (Mathews et al, 2012; Peltier et al., 2012; Grandon & Pearson, 2004; Fillis et al., 2004) argue that an antecedent of e-commerce adoption derives from the management capabilities and from the degree of innovation of the firm.

Among the antecedents, information factors and cost reduction are important in affecting firms' market analysis activities. Export barriers may be reduced via the Internet simplifying internationalisation particularly for small and medium sized enterprises (Bell

& Loane, 2010). Mathews et al. (2012) highlight that certain pre-market entry concepts, such as psychic distance, may not be as relevant on the internet because this medium enables communication with the entire world regardless of economic, cultural, and commercial differences. Furthermore, the lack of investment capital is usually one of the largest barriers to internationalisation; the internet can be seen as an alternative cheaper mode of serving distant markets.

Market responsiveness is another antecedent that refers to a firm's capability and inclination to respond to customer needs. The internet offers speed advantages and enables firms to enhance their flexibility in responding to customer needs and developing competitive advantage (Prasad et al., 2001). Environmental turbulence refers to the changes in the composition of customers and their preferences (Sinkovics et al., 2013). In a turbulent market, firms may use the internet as an alternative path to internationalisation and to reduce uncertainties and risks (Pezderka & Sinkovics, 2011).

Customer reach refers to the perception that the internet can serve as a strategic tool to reach and generate more foreign customers through information generation, dissemination, and responsiveness (Sinkovics et al., 2013).

Strategies

The research stream about strategies highlights the changes and the online internationalisation strategies analysed in literature. Development and diffusion of the Internet, information, and communication technology have made a significant impact on many areas. For companies, it created new channels for communication and distribution and has rocked the foundations of marketing theories, laying the basis for the birth of e-marketing (Gregory et al., 2007).

Different scholars argued that Internet is a key platform for digital marketing since it includes a wide access to global markets, low costs, seamless services and information and better customisation skills (Skudiene et al., 2015). Previous internationalisation theories do not explain the phenomenon of accelerated and rapid internationalisation from the Internet perspective (Gregory et al., 2007; Brouthers et al., 2016). In the context of online internationalisation, the online channel can be a path for internationalisation to reduce export barriers and enhance customer acquisition. E-commerce drivers such as a firm's product online transferability or e-commerce assets, and demand for e-commerce have a significant, direct impact on export strategy dimensions. Through e-commerce, exporters may become familiar with customer behaviours, local distribution channels, and competitors' activities (Gregory et al., 2007).

However, several contributions to the literature highlight that e-commerce has to deal with both different legal and cultural systems and certification requirements (Sinkovics et al., 2013). Some firms, due to online interaction, may perceive a reduced psychic distance between the countries. The risk is a "virtuality trap", that is, a mistaken belief that the virtual firm can fill the gap about foreign markets more easily than traditional brick and mortars (Sinkovics et al., 2013).

Time is an important determinant in the internationalisation process and is increasingly viewed as an important factor (Schu et al., 2016). Rapid virtual internationalisation typically implies better performances for firms in terms of growth and time (Schu et al., 2016). In the retail sector, evidence (Johanson & Kalinic, 2016; Schu et al., 2016) shows

that online retailers internationalise differently and much faster than traditional bricks-and-mortar retailers.

Consequences

The last identified research stream pays particular attention to the performance of firms. In this setting, it becomes important to consider factors associated with international presence, such as brands, costs, and the business and cultural distance (Liu et al., 2013; Bianchi & Mathews, 2016; Kim et al., 2017). Reuber and Fischer (2011) find that a firm's resources, such as Internet technology, are essential in the pursuit of international marketing opportunities. Specifically, the Internet supports the international expansion of exporters, and increases the international market growth of firms (Bianchi & Mathews, 2016). According to Vogel and Guttel (2013) and Trainor et al. (2014), the Internet helps firms in developing two important export marketing capabilities: routines to gather and interpret export market information and decisions about distribution, customer services, communication and selling processes.

Other ways in which the Internet can help improve export performance is by finding the right overseas agent, providing market intelligence to support export planning, and electronic communication. The Internet also enables firms to reach potential clients around the world. The Internet significantly helps in developing communications with new and current importers, suppliers, agents and customers (Glavas & Mathews, 2014). Bianchi and Mathews (2016) argue that firms use the Internet to generate revenue by selling more to existing customers and by attracting new customers because Internet has no physical or cultural constraints.

Many conceptual studies on the implications of the Internet for marketing suggested beneficial effects of Internet marketing on business performance. Firm characteristics, such as firm size and prior experience, have a negative relationship with exporting firms' Internet activities; contrary, exporting firms' IT capabilities and organisational innovation have a positive relationship with their Internet activities (Bianchi & Mathews, 2016).

DISCUSSION

The aim of this study was to conduct a literature review on firms' internationalisation in e-commerce with the aim of understanding the use of such means to enter foreign markets. Given that research on this issue is new and largely fragmented, it is theoretically important to evaluate what has been studied and to derive meaningful insights through a structured review of the literature. In this study, we have conducted a systematic review of e-commerce and internationalisation studies to explicate how firms use e-commerce to enter new markets and export. A total of 69 journal articles were identified through a systematic and rigorous search in prominent academic databases and journal outlets. The collected literature shows an interest in the emerging area of e-commerce. In our review, we have categorised the studies under the framework of the antecedent-strategies-consequences approach. Figures 4 to 9 represent a summary of the publication trend for each thematic area (antecedents, strategies, and consequences). In particular, Figures 5, 7, and 9 represent the citation trend for the articles published in the area.

This gives particular importance to the review by evidencing the interest of researchers in the field of e-commerce internationalisation, which is very sparse in literature today.

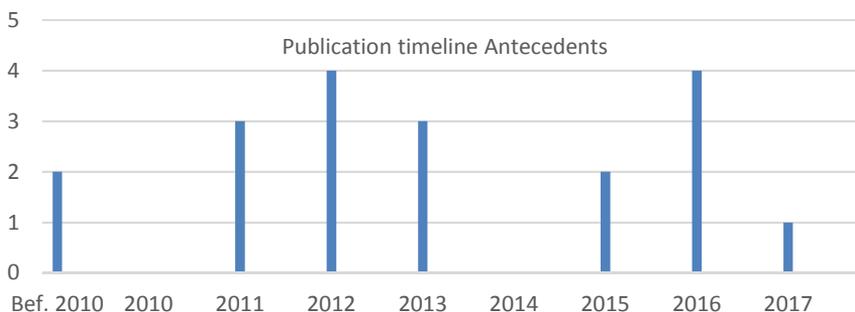


Figure 4. Publication timeline “Antecedents”

Source: own elaboration.

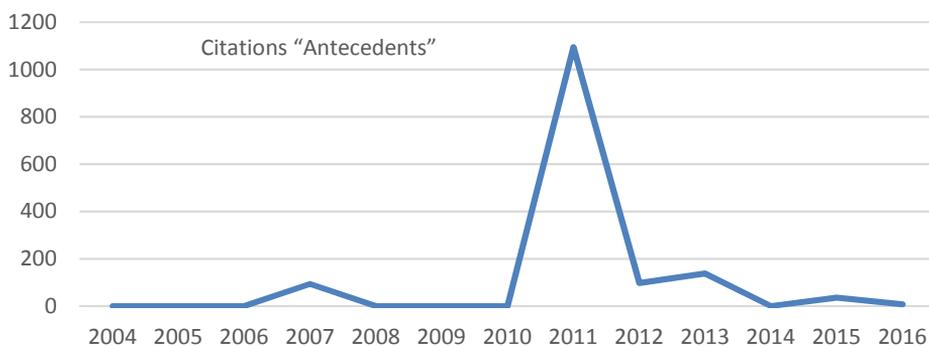


Figure 5. Citation trend “Antecedents”

Source: own elaboration.



Figure 6. Publication timeline “Strategies”

Source: own elaboration.

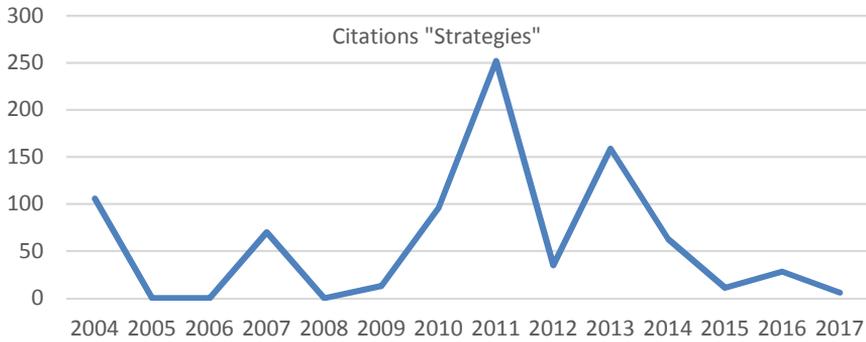


Figure 7. Citation trend "Strategies"

Source: own elaboration.

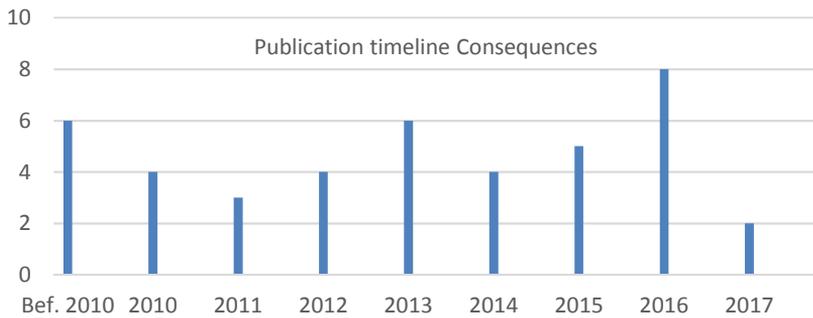


Figure 8. Publication timeline "Consequences"

Source: own elaboration.

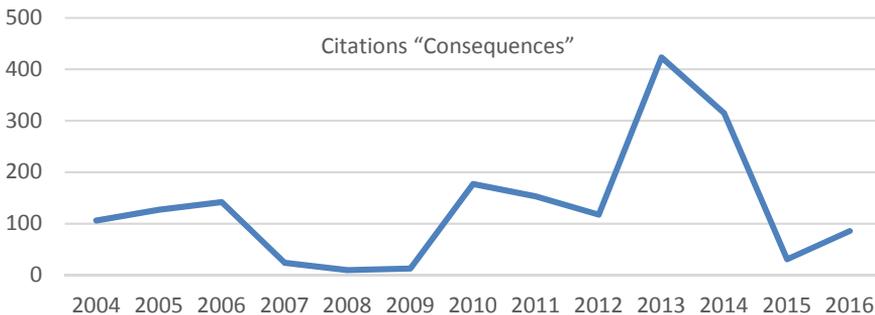


Figure 9. Citation trend "Consequences"

Source: own elaboration.

Finally, we report in Figure 10 a summary of the total number of citations per theme. We can evidence that the major number of citations concentrate upon antecedents and

performances, given the relevance of what drives firms to adopt e-commerce and what are the results of internationalisation through e-commerce.

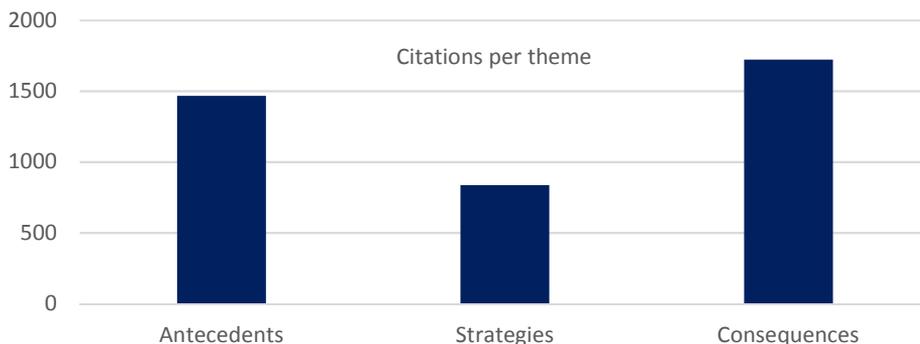


Figure 10. Number of citations per theme

Source: own elaboration.

Implications and opportunities for future research

We think that the findings of this study carry several implications. First, to the best of our knowledge, this is the first study to conduct a literature review on e-commerce use for internationalising firms. Since existing studies in this area are emerging, it is difficult to obtain full insights regarding how e-commerce is used by internationalising firms and what the effects are on the firms' performances. In this study, we provide an overview of the existing published work on this issue and analyse the research contexts, theories, and methods. More importantly, we propose a theoretical framework to classify the studies. This has the potential to advance our knowledge of how firms use e-commerce, as well as to provide a prominent theoretical foundation for future research.

In addition, our review identifies the journals interested in the issue of e-commerce for international business. It defines the methods and theories used in past qualitative and quantitative studies. The review shows the most-cited themes by year and gives a representation of the evolution of this issue over the years.

Second, the factors identified in our integrative framework are likely to help companies to better harness the power of e-commerce. The factors concentrate on content, network, and interaction characteristics. It informs companies of the crucial roles of contingency factors, which may help them to realise when they could effectively leverage the marketing potential of e-commerce websites globally. The review may be helpful for firms in order to identify useful strategies for firms that use or intend to use e-commerce to enter foreign markets. Firms can also understand the implications of their potential e-commerce activity by looking at the performance studies.

Our literature review also enables us to highlight some opportunities for future research. First, our review shows that the majority of the empirical studies adopt the survey and the panel data analysis. In contrast, qualitative methods are relatively less adopted in the literature. This suggests that diversifying research methods in future stud-

ies may be useful to uncover more and different empirical evidence with respect to firms' use of e-commerce means to internationalise.

Second, this study shows that several theories explain firms' behaviour in the field of internationalisation through e-commerce. The purpose of many empirical studies is to test theories and develop explanatory models. This is because e-commerce is a new area, where existing theories may be insufficient to provide accurate and complete understandings.

Our integrative framework is an initial attempt to identify and classify prior studies. It would be interesting to investigate when and how firms move from one internationalisation stage to another and then to highlight the interrelationships between different stages and e-commerce use. In addition, firms do not actually need to follow the sequence (born-global firms). Thus, it may be useful to look into non-linear activities in firms' internationalisation processes within this context.

Limitations

The analysis comes down to the method used in order to collect the articles because it does not rely on sophisticated methodologies (e.g. bibliometric analysis) (Galvagno, 2017), although other international business reviews have taken a similar approach also in Italy (Resciniti and Matarazzo, 2012). Also, the review dismisses the conference proceedings.

CONCLUSIONS

This study provides a systematic review of firms' internationalisation through e-commerce. We derive insights through a discussion of the research contexts, theories, and research methods of these studies.

We adopted a systematic approach to identify relevant articles about firm internationalisation and e-commerce. We collected academic and peer-reviewed journal articles by selecting and searching different databases using these keywords: internationalisation, e-commerce, online shopping, e-business, and digital marketing. We also checked both e-commerce and international marketing and business journals. By looking at the theories used in the literature to deal with the internationalisation process, we chose to use the antecedent-strategy-consequences approach in order to classify the literature (Elbanna et al., 2013; Hitt et al., 2006; Carpenter et al., 2004).

Finally, we traced a trend of the publications in literature about online internationalisation by cross-referencing data regarding number of citations and year of publication.

We believe that our literature review and theoretical framework will contribute to the understandings of this domain and inspire more related research in the future.

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Appendix A: Articles considered for the literature review

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MOOC and the workplace: key support elements in digital lifelong learning

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Abstract

This paper examines the relationship between trends in workplace learning and training; the EU policy for lifelong learning; and describes the role that alternative forms of educational delivery such as MOOC can play in supporting future scenarios such as automation and digitalization. The research conducted is based on synthesis of prior research results, literature analysis, qualitative research, specifically course evaluation through roundtable discussion. This paper draws together research into MOOC delivery and impact and contextualises these in relation to both recent workplace trends (digitalisation and automation) and lifelong learning policies within the EU. A conceptual model for differentiating flexible, open and online forms of delivery is introduced.

Keywords: MOOC; lifelong learning; e-learning; digitalisation; heutagogy

JEL codes: I26, L26

INTRODUCTION

The objective of this paper is to contextualise the research outcomes of the BizMOOC project in relation to future delivery of flexible lifelong learning. It draws on the development and evaluation of a Massively Open Online Course (MOOC) focused on lifelong learning by the project partners (Pitt *et al.*, 2018) and synthesizes research from the

project as a whole. Context for the synthesis is provided by an examination of trends in workplace and lifelong learning in recent years. The expansion of MOOC into business reflects a growing awareness of flexible educational delivery among employers, but uptake remains relatively low.

METHOD

The primary method employed in this discussion paper is the synthesis of results from the BizMOOC project with other relevant recent literature. Schick-Makaroff *et al.* (2016) identify four categories for research synthesis methods: conventional synthesis (including traditional literature review; quantitative synthesis (aggregation of empirical research); qualitative synthesis (integration of qualitative data into a single narrative, meta-research); and emerging synthesis (systematic integration of diverse data types; executive reports; meta-narratives; critical interpretation). This article offers an emergent synthesis of results from several projects to describe key MOOC elements that can support lifelong learning in the workplace. As Suri & Clarke (2009) note this approach presents an inclusive way to “open spaces, raise questions, explore possibilities, and contest taken-for-granted practices”.

LITERATURE REVIEW AND THEORY DEVELOPMENT

This paper draws on the findings of the BizMOOC project which are captured in the *MOOC BOOK* (BizMOOC, 2018). Within the BizMOOC project partners worked on a range of documentation and collectively wrote an extensive account of the state of the art for MOOC theory, development, application and evaluation across the 11 countries involved in the project.

Results from the *Models for Open, Online, Flexible and Technology enhanced Learning* project (Orr *et al.*, 2018) are used to provide a theoretical framework for describing the changing landscape of educational delivery. In addition, a range of reports on lifelong learning, digital skills and educational outcomes were consulted and are cited below. Key factors are identified and synthesized in the discussion section with conclusions drawn.

A BRIEF HISTORY OF MOOC

In 2012 many universities in the USA invested heavily in making their courses available online, either through a platform like EdX, Coursera or Udacity. Most of these were based around a didactic pedagogy which allowed the course to be taken by large numbers of distributed learners. These have become known as xMOOC to distinguish them from the early, experimental connectivist/constructivist cMOOC. Figure 1 describes the development of key MOOC providers as a timeline.

As Baynes & Ross (2014) note, it is possible to divide these two broad MOOC categories of cMOOC and xMOOC into many variants, some of which may neither be massive, open, or online. Programmes of study which draw on MOOC terminology may be entirely closed to a specific group of learners or restricted to users within a specific company. MOOC thus now take their place within a wider network of online learning opportunity and flexible delivery. The MOOC concept has come to stand for widely

available learning content and has a greater penetration into society than similar approaches (e.g. open educational resources).

There continues to be a massive amount of investment in platforms that provide free access to learning materials in anticipation of a brighter future. In a review of MOOC trends, Shah (2017) identified more than 9,400 courses offered; more than 500 MOOC credentials; a dozen graduate degrees available through MOOC; a million new users for 2017; and an estimated total of 81 million MOOC learners. The two largest MOOC providers – Udacity and Coursera – have attained a market valuation of more than \$1bn (which the *Financial Times* (Knee, 2016) termed “unicorn valuation status”). Even without the emergence of a clearly sustainable business model, higher education providers strive to dominate the MOOC space. Much of this investment is targeted at recruitment of students into higher education through providing some learning for free, but there are also substantial numbers of MOOC providers focused on training, career development and lifelong learning.

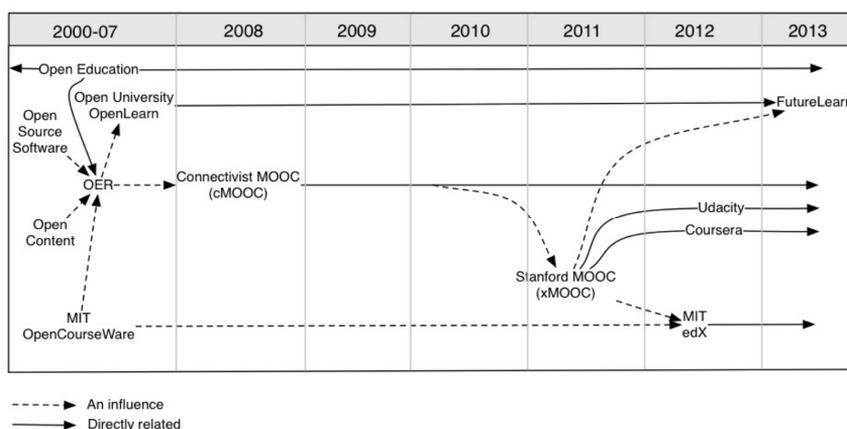


Figure 1. MOOCs and Open Education Timeline

Source: Yuan & Powell (2013)

MOOC IN THE WORKPLACE

The expansion of MOOC into business reflects a growing awareness of flexible educational delivery among employers. Radford *et al.* (2015) found that though awareness of MOOC remains relatively low among employers, once the concept is explained to them they could see the benefits in terms of demonstrating employee commitment; recruitment (especially for technical skills); and professional development. Sreeleakha and Manikandan (2015) note that employers are increasingly likely to recognize MOOC learning and use it as part of their own training provision. They identify the following general benefits to employees/learners (*ibid.*, 31).

1. Content is packaged attractively for online learners
2. The financial outlay is minimal
3. Engaging in learning enhances job performance
4. Less disruption to working/life duties

5. Supporting the autonomy and career direction of workers¹

Several authors have identified the potential for MOOC to support both workplace learning and lifelong learning more generally construed (e.g. Brandi & Iannone, 2015; Pouezevara & Horn, 2016). However, the research suggests that this potential has yet to be met. In a review of articles on the use or potential of MOOC to upskills existing employees, Calonge & Shah (2016:20) identify a disparity between higher education providers and employers on whether graduates are able to meet the needs of businesses. Similarly, a report by the European Centre for the Development of Vocational Training found that there is little interaction between higher education providers and businesses when it comes to organizing curricula and identifying key skills – 40% of graduate employers reported never having done so (CEDEFOP, 2015:37). Lambert & Hassam (2018) make the case that development focused international organisations have failed to make good use of the potential of MOOC to support learning; at least partly because of the higher procurement and administration costs than those faced by higher education institutions. The possibility for MOOC to support lifelong learning was identified relatively in their development cycle but few MOOC are directly focused on lifelong learning. Indeed, there is some reason to think that those who are most excluded from MOOC opportunities are also those who would benefit most from lifelong learning. Steffens (2015) argues that MOOC support lifelong learning for experienced learners without widening participation, since those that take MOOC are typically already educated to degree level.

LIFELONG LEARNING: CHALLENGES & OPPORTUNITIES

“We are currently preparing students for jobs that don’t yet exist, using technologies that haven’t been invented, in order to solve problems we don’t even know are problems yet.”²

Lifelong learning refers to both a long-established opportunity and a longstanding set of challenges. Lifelong learning may be defined as the need to effectively and creatively update and apply learning and skills throughout one’s life. Most broadly construed this is all learning that takes place between birth and death but typically the focus is on some combination of workplace learning; continuing education; workplace training; professional development; and private study. Competencies associated with lifelong learning include: self-management; learning to learn; intuitive and entrepreneurship; information acquisition; digital competencies; and decision-making (Hürsen, 2011 cited in Kaplan, 2016). In practice, lifelong learning may be realized quite differently in different cultures and contexts (e.g. in terms of policies; degree of emphasis on professional/personal development; cultural expectations; etc.). In the context of the European Union, more than €7 billion has been invested in lifelong learning since 2007 (European Commission, n.d.).

It is anticipated that in future years there will be a greater need for lifelong learning. The trend towards automation of existing roles (and the creation of new roles) is likely to continue. Brynjolfsson & McAfee (2014) describe four impact vectors pertaining to digi-

¹ The authors also suggest that self-motivated learners will benefit most, but as it is not a general benefit it was omitted from the present list.

² Richard Riley, cited in Gunderson *et al.* (2004)

talization of the workplace: improved real-time measurement of business activity; facilitated and more cost-effective business experimentation; easier sharing of ideas more widely; and the ability to replicate innovation more quickly. Digital technologies are shortening feedback loops across industry and services. It is anticipated that these “smart” operations (Hüther, 2016) will result in efficiencies across the workplace but this will require more rapid upskilling and training as unskilled jobs are replaced by new industries and job roles have a shorter life cycle. There is some indication that we are not yet preparing sufficient numbers to enter the workplace with the skills required for the future. Calonge & Shah (2016:20) analysed the literature on graduate employability and found that almost half of IT employers surveyed in the UK in 2013 did not believe that the education system was meeting their needs. Lifelong learning therefore should be seen as a fundamental element of the experience of the workplace and an essential element of delivering an agile workforce.

MOOC FOR LIFELONG LEARNING: KEY ELEMENTS

Lifelong learning requires self-motivation and self-organisation on the part of the learner. Blaschke (2012) notes that “[d]istance education has a particular affinity to the heutagogical approach, due to distance education’s inherent characteristics of requiring and promoting learner autonomy, its traditional focus on adult learners, and its evolutionary and symbiotic relationship with technology.” This affinity with heutagogical (self-determined) learning is the key to understanding the potential of MOOC to empower lifelong learning.

Sharples (2013) highlights three key factors that make MOOC more accessible to some learners: digital literacy; independence; and already being educated to degree level. These are also essential features of lifelong learning, and good MOOC design should support lifelong learners. Albert & Sekhon (2015) propose a best practice model for MOOC development and presentation. The “7 Cs” indicate a pattern of approaches that could be equally useful to lifelong learners by supporting heutagogical practices. Focused around engagement and real-life application, it is noteworthy that these indicators are much more closely aligned to the cMOOC principles of collaboration and co-creation of knowledge than the didactic approach typical of xMOOC. Table 1 summarizes these elements.

While effective MOOC design can ameliorate the effects of the “digital divide” (Norris, 2001) and encourage marginalized learners to participate, solutions for digital lifelong learning must be approached with a holistic perspective. Many of these actions needed to prepare for digitalization must be taken by policymakers. These include identifying collaborative partnerships; building policy frameworks; allocating funding; providing clear vision; raising awareness; and addressing complacency (Broadband Commission, 2017).

As Stiglitz & Greenwald (2015:507) argue, access to the kind of knowledge and skills required to take advantage are distributed unequally, with divisions resulting from geography, economic difference, prior learning or cultural difference. Like MOOC, lifelong learning has the potential to act as an equalizer but also to entrench inequality.

Table 1. "7 Cs" for bridging skills gaps with MOOC

"7 Cs"	Positive factors that influenced success
Content	<ul style="list-style-type: none"> • Up-to-date content • Added value to existing expertise • Relevance • Taught by trusted instructor
Context	<ul style="list-style-type: none"> • Learning content was relevant to practical situations and could be applied
Curation and Co-creation	<ul style="list-style-type: none"> • Co-creation of content • Social construction of knowledge • Working collectively
Communication	<ul style="list-style-type: none"> • Consistent instructor presence • Effective (concise) messaging • Timely reminders • Clarity of expectations
Collaboration	<ul style="list-style-type: none"> • Reality-based learning activities • Teams working together to deadlines • Working offline with colleagues and sharing difficulties
Competition	<ul style="list-style-type: none"> • Collective score-keeping of progress
Certification	<ul style="list-style-type: none"> • An appropriate certification of learning

Source: Adapted from (Albert & Sekhon, 2015) quoted in Calonge & Shah (2016).

LEARNING TO LEARN: RESULTS FROM A BIZMOOC EVALUATION

The European-wide (Erasmus+) Knowledge Alliance project BizMOOC ran between 2016 and 2018. The EU-funded project tackles the European challenge of enabling businesses, labour force and universities to increase their activities and exploitation (economies of scale) of the MOOC potential. It focuses on workforce & HEI training and the acquisition of labour market key competences through applying new methodologies for online teaching & learning in order to unlock the potential for MOOC to be exploited in the world of business. The project consortium comprised 11 full partners and 3 associate partners across 11 countries, including higher education providers, non-governmental organisations and businesses of various size.

Three MOOC for different European audiences were developed, presented and evaluated as part of BizMOOC. The content of these MOOC was based on key lifelong learning competencies identified by the European Commission, including entrepreneurship; "intrepreneurship"; innovation, creativity and problem-solving (Pitt *et al.*, 2018). At The Open University (UK) a MOOC entitled *Learning to Learn* was presented between January 2016 and December 2018. This MOOC specifically focused on individual learning skills, reflective analysis and critical thinking skills in order to align to the key competencies of "learning to learn" as described by the European Commission (2018:24).

Presented on the OpenLearnCreate platform hosted by The Open University (UK), the course was evaluated through surveys and a series of focus groups across Europe (N=45), being iteratively improved throughout its presentation. The target audience for this MOOC was those who normally would not engage in MOOC learning or other forms of free online education. A fuller account of the evaluation can be found in Pitt *et al.*

(2018) but it is worth noting the following key outcomes in relation to lifelong learning proposed by the report:

1. It is crucial to ensure that MOOC promotion is targeted to those who have most to gain from the learning experience
2. Ideally learning in this kind of MOOC will be personalised as much as possible in order to engage with the diversity of target audiences.

This need for more flexible delivery is a key consideration in the future use of MOOC for lifelong learning. This is a finding that also arose from other evaluation work conducted as part of BizMOOC. The expert Round Table took place on 23 October 2018 at The Open University (UK). The event brought together 16 key stakeholders from education and business to discuss project outcomes and findings. Table 2 presents the key emergent themes: these are general rather than specific to a particular MOOC audience.

Table 2. Thematic Analysis of BizMOOC UK Round Table Discussion

Thematic Area	Key Themes and Critical Points Raised
Cultural	<p><i>Closed by default</i>: the idea that businesses will not make organisational knowledge open was raised several times</p> <p><i>Adapting to change</i>: Many businesses need to be more proactive about lifelong learning as we move into automation & more flexible career pathways</p> <p><i>Culture shift</i>: businesses think in terms of training, not learning; used to a culture of competition, not peer collaboration</p> <p><i>Trust</i>: this is still a massive issue for connecting competencies and the recognition of skills; undergraduate degree remains standard</p> <p><i>Awareness</i>: still low among human resource professionals; for whom the distinction between e-learning and MOOC is often opaque</p>
Professional Development	<p><i>Lifelong learning</i>: Tension between business objectives and lifelong learning needs to be overcome in business strategies</p> <p><i>Timing</i>: Interest & engagement with MOOC seems easier earlier in career</p> <p><i>Heutagogy</i>: Self-paced learning easier to integrate into business activities than c-MOOC</p>
Strategy	<p><i>Alignment</i>: MOOC rarely aligned to direct business need and each business perceives needs differently</p> <p><i>Solutionism</i>: MOOC branding has a habit of trying to be all things to all people but this means it's not seen as solution to specific issue</p> <p><i>Moderation</i>: Any cMOOC or peer learning based approach requires a moderator for interaction spaces which can affect cost savings</p> <p><i>Branding</i>: make MOOC less "academic" and more corporate</p> <p><i>Supported choices</i>: make it easier to right the right MOOC course for a specific need from the many choices available</p>
Cost/Benefit	<p><i>Perceived value</i>: Free/low cost branding still seen to imply low quality; needs to be connected to concrete outcomes</p> <p><i>Resourcing</i>: Smaller businesses & voluntary sector could benefit most from MOOC but have fewest resources to invest</p> <p><i>True costs</i>: more work is needed to demonstrate the cost-effectiveness of MOOC as a training solution</p> <p><i>Certification</i>: fast-tracking presents possibilities but differentiated certification raises concerns about value</p>

Source: <https://www.slideshare.net/robertfarrow/bizmooc-uk-round-table>

The vision of openly sharing does not always harmonise with business culture. The overall picture that emerges is that academic and business approaches do not sufficiently overlap. Openness is a disruptive approach to education, but in business it is quite radical. There remains great potential for flexible delivery of learning but we also must find ways to enhance communication between business and academia.

If the real learning and training needs of business don't quite align to the educational theory of MOOC, then how should we proceed? In the remainder of this paper I will approach this question from the perspective of increasingly flexible delivery of education.

LEARNING: THE TREND TOWARD FLEXIBLE DELIVERY

A recent study (Orr et al., 2018) funded by the International Council for Distance Education and conducted by Forschungsinstitut für Bildungs- und Sozialökonomie (FIBS) and The Open University (UK) reported on a range of educational delivery styles around the globe. The study identified a range of key vectors that can describe alternative forms of delivery; educational strategy and business models in one model.

The OOFAT study proposes nine questions that can be used to help organisations conceptualise and strategize their approaches to delivering learning (*Ibid.*, 46-7).

1. How flexibly is content delivered according to differences in time and location?
2. How open is access to the content for learners?
3. How flexible is access to support for learners?
4. How open is access to support for learners?
5. How personalised is the content to an individual learner?
6. How open is the process of content production?
7. How flexible is assessment for each learner assignment?
8. Who is responsible for assessing learners/learning?
9. How open are the elements in final recognition of learning?

It is proposed that these be attributed values on a Likert index and used as an artefact for thinking about institutional delivery. The outcomes can then be plotted as radial diagrams and compared, or associated with a particular business model approach according to what is emphasized. Figure 2 reproduces the analytic tool developed in the project to visualise differences between providers. (The typology is indicated for higher education, but its categories can apply to any educational context.)

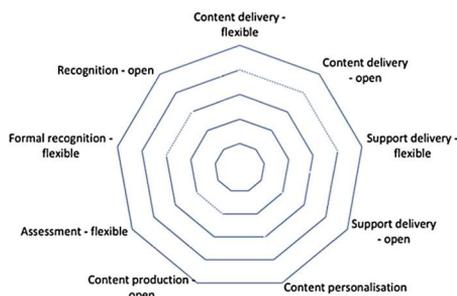


Figure 2. OOFAT Radial Model

Source: Orr, Weller & Farrow (2018).

DISCUSSION

The OOFAT models study is informed by MIT research (Kane *et al.*, 2015) which emphasizes that it is strategy (rather than technology) which ultimately drives digital transformations. Consider again the idea of MOOC contributing to the kind of flexible delivery of education described above. Standard MOOC models usually meet some aspects of flexible and open delivery; this is usually enough for a MOOC to call itself “open”. (Indeed, the OOFAT study found that content delivery displays the greatest levels of openness while assessment and recognition of learning were the least open/flexible.)

It is crucial that MOOC offer support for both digital skills and learning skills since these are the foundation of digital lifelong learning. The models developed in the OOFAT project illustrate well the multivalence of flexible and open forms of delivery across the dimensions of content, delivery and recognition of learning. Support for digital lifelong learning throughout a person’s life will be offered by those MOOC which can most effectively take advantage of flexible and open delivery in a manner that can be suited to a range of learning scenarios. In this light, MOOC have an obvious role in supporting digital lifelong learning but it is important not to mistake MOOC for a one stop solution. It cannot be assumed that because some e-learning describes itself as a MOOC it is adequately flexible/open in its delivery.

Increased flexibility is also anticipated with respect to skills and qualifications which are likely to be both more diverse and more granular. More broadly, there is a need for systems that can integrate and codify formal, non-formal and vocational development into a consistent framework. University degrees and other formal qualifications are likely to remain a standard for employability but will be part of a richer, more diverse tapestry of personal learning and development. Strategies should recognize the importance of digitization and digital technologies for an effective digital lifelong learning strategy by adopting a more granular approach to curriculum; embracing effective learning design; making better use of metadata; and exposing relevant information about what is being learned (e.g. through an application programming interface) to centralized databases. Strategic frameworks for lifelong learning, transversal skills and competencies typically focus on standards and qualifications that are compatible with national qualification frameworks to facilitate compatibility and comparison. However, as lifelong learning systems move in the direction of granularity it is expected that the focus will shift to “skills” rather than “qualifications” as a main point of orientation. In this respect, digitally enhanced lifelong learning provision requires a method for consistently describing bundles of skills that are commonly recognized across different regional, national and international contexts.

CONCLUSION

This paper has reviewed trends around MOOC, lifelong learning and society. It has been argued that MOOC to realise their potential for lifelong learning they must be enhanced by attempts to widen participation in education through the wider proliferation of basic study skills and the use of learning technologies. The same criteria that can be used to identify effective MOOC learners are also features that support lifelong learning. In the ‘smart’ economy that is anticipated to be brought by the future we expect to see in-

creased demand for lifelong learning, including more agile training and development; more rapid reskilling; and ongoing professional and personal development.

MOOC can support lifelong learning – especially digital lifelong learning – through the proliferation of technical skills; study skills; and through building the confidence and existing knowledge of learners from a wide range of backgrounds. The key elements pertaining to effectively supporting lifelong learning through MOOC identified here provide a route into reflecting on the presentation of MOOC learning to audiences identified as particularly in need of lifelong learning skills. Conceptual models from the OOFAT study (Orr *et al.*, 2018) indicate a way of contextualising MOOC strategies and identifying implicit elements of a more holistic lifelong learning strategy.

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MOOCs and entrepreneurship education-contributions, opportunities and gaps

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Abstract

The goal of this study is to provide a systemic review and evaluation of the existing MOOCs and Micro-credentials in the area of entrepreneurship, adding to the current state of research on online entrepreneurship education. The study is based on desk research consisting of literature review as well as comparative analysis and systemic review of entrepreneurship MOOC and Micro-credentials. Two MOOC aggregators Class Central and MOOC List as well as five MOOC platforms, Coursera, edX, FutureLearn, Udacity and Kadenze, have been used to identify the existing courses. The main comparison criteria in both analyses have been: course focus, format, length, fees and language. Key research findings indicate that the majority of the current MOOCs and Micro-credentials devoted to entrepreneurship focus on start-ups and universal entrepreneurial skills. The area of firm-level entrepreneurship remains most unaddressed by MOOCs. Two MOOC platforms Coursera and edX lead at this early development stage of Micro-credentials. The Micro-credential offer is growing rapidly, responding to the learner preferences of modularity, stackability and competence based education. This study aims to contribute to the analysis of new developments within online entrepreneurship education. The findings present valuable practical implications, especially relevant for MOOC providers and creators for evaluating their

current entrepreneurship education offer, in order to identify possible gaps and opportunities for future online courses, credentials and degrees.

Keywords: entrepreneurship education, online entrepreneurship education, MOOC, micro-credential

JEL codes: A29, L26, O31

INTRODUCTION

Entrepreneurship education has received immense academic (and non-academic) attention in the last decades (Stevenson & Lundström, 2001). It is an important area of inquiry, especially relevant in times of crisis and economic challenges. Several authors have highlighted the critical role of entrepreneurship education in developing more and/or better entrepreneurs (e.g. Gorman, Hanlon, & King, 1997; Katz, 2014; Pittaway & Cope, 2007).

In this context, the popularization of online entrepreneurship education has also strongly accelerated in the last two decades in great part thanks to the new opportunities brought by the development of information technologies. Online learning materials have become abundant and diverse. Online courses facilitate the development of entrepreneurial skills by individuals on their own by means of electronic devices. New technology has made it possible to learn from successful entrepreneurs, share experiences and exchange ideas. Today, thanks to technology, entrepreneurship education is not only easy to access, but it has become more inspirational than ever. Contemporary authors and educators (Pittaway & Cope, 2007; Rigg & O'Dwyer, 2012) articulate the role of inspiration as a key factor of effective education for entrepreneurship.

Massive Open Online Courses (MOOCs) are seen as an example of a disruptive, emerging technology in the area of entrepreneurship education. Being characterized as flexible, open, self-directed, self-paced, highly interactive including peer learning, interdisciplinary and cost-reducing, MOOCs bare a huge potential to cater the needs of future and existing entrepreneurs (Welsh & Dragusin, 2013). As Siemens and Tittenberger (2009, p. 53) noted, “the greater use of emerging technology can serve as an important bridging process between the traditional role of education and the not yet clearly defined future”. Micro-credentials as an emerging trend in entrepreneurship education contribute to the legitimization and formal recognition of online education, MOOCs especially (Matkin, 2017).

Taken the promising developments in online entrepreneurship education, newer formats of online courses, such as MOOCs and Micro-credentials, remain under-researched in mainstream entrepreneurship education research. This research gap will be examined in this study, focusing on an exploration and classification of the current range of entrepreneurship MOOCs and Micro-credentials. The identification of state of the art of new online formats seems important for educators, learners and course providers. This study contributes to the evaluation of the current portfolio of entrepreneurship online courses, in order to identify possible gaps and opportunities for future developments.

This paper is organized as follows. Section 1 focuses on a brief literature review on entrepreneurship education and the recent developments in this area. Section 2 discusses the two new formats of online education, MOOCs and micro-credentials, in detail. Section 3 provides the research findings and results of the exploration, classification and comparison process of entrepreneurship MOOCs and Micro-credentials, as

conducted within this study. Finally, conclusions are drawn and possible future research is briefly discussed.

ENTREPRENEURSHIP EDUCATION

The entrepreneurial mystique? It's not magic, it's not mysterious, and it has nothing to do with the genes. It's a discipline. And, like any discipline, it can be learned. (Drucker, 1985, p. 18)

Entrepreneurship education is at the centre of attention of academics and policy makers attention for at least the last three decades (Stevenson & Lundström, 2001). For example, the European Union has launched numerous programs aimed at creating and reinforcing the entrepreneurial culture and entrepreneurship education is a fundamental element of its policy. European conceptual frameworks for entrepreneurship education encourage building an "entrepreneurial spirit, development of creativity, initiative and self-confidence¹." The European Union defines as one of the eight key competences for Lifelong Learning "Sense of initiative and entrepreneurship":

It is the ability to turn ideas into action. It involves creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives. The individual is aware of the context of his/her work and is able to seize opportunities that arise. It is the foundation for acquiring more specific skills and knowledge needed by those establishing or contributing to social or commercial activity. This should include awareness of ethical values and promote good governance. (European Parliament and Council, 2006, p. 17)

Across Europe much effort is put into promoting entrepreneurial behaviour across countries. The European Commission has stated in their Entrepreneurship 2020 Action Plan that "investing in entrepreneurship education is one of the highest return investments Europe can make" (EC, 2013, p. 5). Overall, entrepreneurship education has gained importance and has been implemented in the national strategies of most EU member states, given the premise that it may influence the level of entrepreneurial activity in a given country, positively impact entrepreneurial intentions, entrepreneurial traits, support economic growth and create new jobs (Dickson et al. 2008; EC, 2013; Kuratko, 2005).

Several authors have highlighted the critical role of entrepreneurship education in developing more and/or better entrepreneurs (e.g. Gorman, Hanlon, & King, 1997; Katz, 2014; Pittaway & Cope, 2007). Elert, Andersson and Wennberg (2015) have shown that entrepreneurship education increases self-confidence, long-term probability of starting a firm, as well as entrepreneurial income generation. Von Graevenitz, Harhoff and Weber (2010) confirmed the positive effects of entrepreneurship education on student's self-assessed entrepreneurial skills and the learning process of their entrepreneurial suitability or aptitude. A survey by Jenner (2012) suggests that 15% to 20% of students who took part in a mini-company program in secondary school will later establish their own business, a percentage which is about three to five times

¹ Analytical Report "Entrepreneurship in the EU and Beyond", European Commission, Flash Eurobarometer, (2010) No. 283.

higher than within the general population. Finally, Martin, McNally and Kay (2013) found a significant relation between entrepreneurship education/training and entrepreneurship-related human capital assets and entrepreneurship outcomes.

In the last twenty years, we have witnessed an immense and dynamic growth of entrepreneurship teaching programs all over the world. Entrepreneurship education has become a standard practice at secondary and higher education institutions in countries around the world (Katz, 2003; Kuratko, 2005). This growth in volume and scope has been coupled by a sharp shift from educating about entrepreneurship to educating for entrepreneurship. Education about entrepreneurship is limited to knowledge transfer. Students learn about starting a business, about legal and business frameworks, what it means to be entrepreneurial or how to prepare a business plan. The goal of this type of education is to acquaint students with many aspects of entrepreneurial practice and pursue their understanding of them. However, after many years of this standard approach, research suggests that educating about entrepreneurship does not necessarily imply that students become more entrepreneurial nor that they wish to act in entrepreneurial ways (Dickson et al., 2008).

Educating for entrepreneurship is driven by a different goal. It is to develop real-life entrepreneurial skills and behaviours. Some authors go as far as to say that the goal is to change thinking and behavioural patterns (Rae, 2005). Rae (2010) defines entrepreneurial learning as “led by creativity, informality, curiosity, emotion and its application to personal and real-world problems and opportunities” (p. 595). It is a holistic process, engaging numerous areas of human activity, primarily intellectual and emotional. Wilson, Vyakarnam, Volkmann, Mariotti and Rabuzzi (2009) argue that entrepreneurship education should provide a mix of experiential learning, skills building and mindset shift, ideally starting from the primary level up.

Hence, contemporary education for entrepreneurship includes the promotion and training of personal skills related to entrepreneurship, such as creativity skills, problem-solving skills, communication skills and networking skills. Repeatedly, these features have been identified in the past as the goals of entrepreneurial education. A meta-analysis conducted by Mwasalwiba (2010) of top entrepreneurship education programs identifies the following distribution of goals among goals of the education process:

- to enhance attitudes, values, intentions and behaviours – 36%,
- to improve personal skills – 32%,
- to develop opportunity recognition skills – 14%,
- to develop skills necessary for establishing a new business – 9% and
- to acquire general management and organizational skills – 9%.

The analysis of other publications reveals a very clear hierarchy of goals within entrepreneurship education, consistent with the above meta-analysis (Raposo & Paco, 2011). Firstly, all existing conceptualizations include the dominating goal of developing an entrepreneurial drive, spirit and culture among students. In second place comes the goal of generating the ability to recognize and pursue opportunities in various areas, whether business, social and academic. A significant number of authors associate entrepreneurship with the ability to create and operate new companies. Mwasalwiba (2010) also notes that scholars in the field of entrepreneurship education are converging towards a single framework of entrepreneurship education. Nevertheless, Mwasalwiba

(2010) also highlights the lack of shared success indicators and common definitions of entrepreneurial competence between educators and other stakeholders, when it comes to entrepreneurship education for different target groups.

In the context of entrepreneurial competences, the Entrepreneurship Competence Framework (EntreComp – Figure 1) developed by the European Union in 2016 presents a holistic and unified approach to defining entrepreneurial competence (Bacigalupo, Kampylis, Punie, & Van den Brande, 2016).

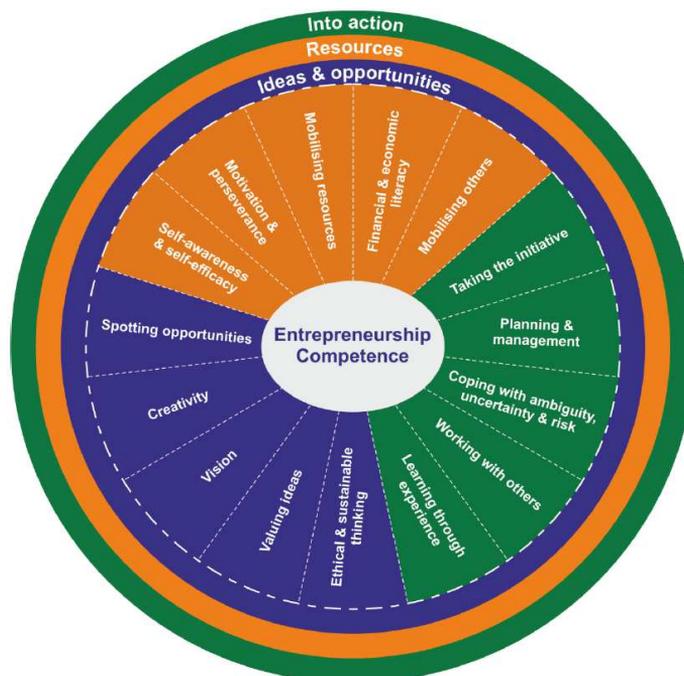


Figure 1. EntreComp Framework

Source: Bacigalupo, Kampylis, Punie, & Van den Brande, 2016

The EntreComp Framework, not only indicates what entrepreneurial education focus should be, but also conceptualizes entrepreneurship very broadly as a universally applicable set of competences:

A transversal competence, which can be applied by citizens to all spheres of life from nurturing personal development, to actively participating in society, to (re)entering the job market as an employee or as a self-employed person, and to starting up ventures (cultural, social or commercial). (Bacigalupo et al., 2016, p. 6)

This definition is based on a broader definition by FFE-YE (2012) which describes entrepreneurship as acting upon opportunities and ideas and transform them into value (financial, cultural, or social) for others.

According to the EntreComp Report, there is an increasing awareness that entrepreneurial skills, knowledge and attitudes can be learned and in addition, foster the devel-

opment of entrepreneurial mindsets and culture. In order to create a bridge between the two worlds of education and work and reach consensus among all stakeholders, the framework provides a common definition of entrepreneurship as a competence. The Framework serves as a foundation for the design of curricula and learning activities aimed at developing entrepreneurship competences, whether at new or existing organizations). In addition, the framework enables the development of parameters and tools for the assessment of individual entrepreneurial competences, which can serve to evaluate the effectiveness of entrepreneurship education programmes. This is especially relevant for the growing body of digital entrepreneurship education formats.

METHODOLOGY

The focus of this research is on new online entrepreneurship education frameworks: MOOCs and Micro-credentials. As shown in figure 2 below, the areas of entrepreneurship, entrepreneurship education, online entrepreneurship education and MOOCs are heavily interconnected and building on each other.

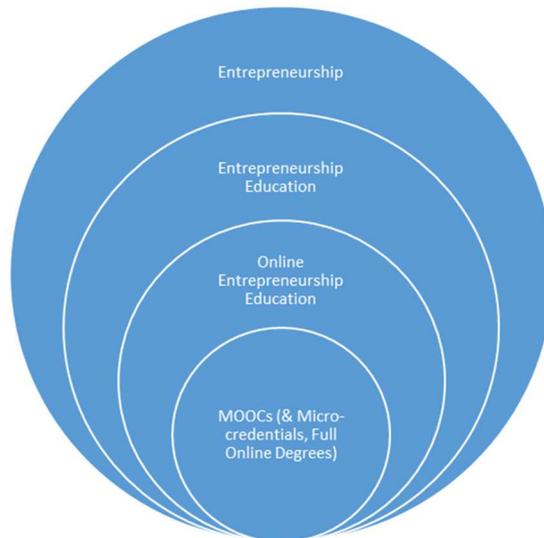


Figure 2. Research context

Source: own elaboration.

The driving goal of this study is to evaluate the potential value added of MOOCs and Micro-credentials in the development of entrepreneurship education.

This study is based on desk research consisting of a literature review and a comparative systematic analysis. As for the classification and comparison process of the current entrepreneurship MOOC offer, the two MOOC aggregators Class Central² and MOOC List³ have been used to identify the relevant courses. As a result, 238 MOOCs have been identi-

² Class Central, <https://www.class-central.com>

³ MOOC List, <https://www.mooc-list.com/tags/entrepreneurship?static=true>

fied on Class Central and 114 on MOOC List, whereas the majority on MOOC List is the same as on Class Central, with only slight deviations (as of 28 August 2018). The identified 238 MOOCs served then as the foundation for the subsequent in-depth comparative analysis, where the main criteria have been: course focus, format, length, fees and language.

Regarding the second comparative analysis of the current Micro-credential offer devoted to entrepreneurship, the five MOOC platforms Coursera, edX, FutureLearn, Udacity and Kadenze have been used to identify the relevant Micro-credentials existing, by searching for “entrepreneurship” on their respective online database. In total, 22 entrepreneurship micro-credentials have been provided by the platforms as of 28 August 2018, which served as the foundation for the comparative analysis. Again, the main criteria have been: course focus, format, length, fees and language.

OPPORTUNITIES OF MASSIVE OPEN ONLINE COURSES FOR ENTREPRENEURSHIP EDUCATION

In the context of online education and the current digitalization of the education sector, Massive Open Online Courses (MOOC) have been emerging rapidly since 2012 as a disrupting and competitive component of individuals’ education process. A MOOC can be defined as an online course designed for a massive number of participants that can be accessed by anyone anywhere, by internet connection, which is open to everyone without entry qualifications and offers a complete course experience online for free (Jansen & Schuwer, 2015). MOOCs received increasing attention from 2011 on, after one course attracted more than 120,000 learners (Sharples et al., 2012; Treeck, Himpsl-Gutermann & Robes, 2013). The subsequent hype saw 2012 becoming the “Year of the MOOC” (Sharples et al. 2013) and five years later, more than 800 universities provided 9,400 courses to 81 million learners (Shah 2017). MOOCs are seen as a door-opener to new trends in education and training (Sharples et al., 2013; Yuan & Powell, 2013), one of them introducing a switch from traditional university target groups to professional life-long learners (Radford et al., 2015; Sreeleakha & Manikandan, 2015).

There are reasons to believe that MOOCs represent a promising opportunity in the development of basic entrepreneurship skills. According to a recent study by Class Central (Shah, 2017), 52% of MOOC learners in 2017 indicated to upgrade their skills for the current job with MOOCs. Being characterized as flexible, open, self-directed, self-paced, highly interactive (including peer learning), interdisciplinary and cost-reducing, MOOC bare a huge potential to cater the needs of future and existing entrepreneurs (Welsh & Dragusin, 2013). In addition, collected learning data provide completely new opportunities (learning analytics) for educators to reflect on and improve their teaching. Mondal, Kumar and Bose (2015) have stated the valuable opportunity of using MOOCs for entrepreneurial education and training, especially for developing/emerging countries (in this case India). There, MOOCs can support the provision of high quality education for learners living at far-off places, help re-integrating school-dropouts and motivate learners towards entrepreneurship and starting their own business. As described earlier, this can again stimulate the economic growth, reduce poverty and improve the quality of life of the whole population. Existing research studies identify several important limitations of MOOCs such as high drop-out rates, lack of frequent feedback, cheating, or the difficulty to assess humanities including social sciences online (Welsh & Dragusin, 2013). However,

MOOCs add a modern facet to the diverse spectrum of educational offers in the domain of entrepreneurship and open up access to education to millions of learners world-wide.

Looking at the some of the recent trends in the MOOC landscape, courses increasingly teach and apply innovation tools, many of them deriving from the start-up area, such as the Business Model Canvas, Lean Approach or Design Thinking.

MOOCs also hold the potential of global outreach and thus widespread promotion of entrepreneurship. Educating for entrepreneurship requires contact with a mentor, a practitioner who can share their success story and experience and provide inspiration for personal life choices. Online teaching resources make that possible regardless the geographic or financial limitations.

Slowly, MOOCs are gaining formal recognition among traditional education providers. In 2016, several platforms have started to provide specific MOOCs offering transferable college credit to learners who are not enrolled in any of the corresponding university's programs. There exist now several collaborations between MOOC platforms and universities for the recognition of certificates and award of these kind of credits (such as EdX partnering with Arizona State University and offering full university fresh-level courses) and the number is rising constantly, which also affects digital entrepreneurship education offers (Lequerica, 2016).

In 2017, Georgia Tech and MIT for the first time offered their on-campus students the possibility of earning credits from a MOOC. Students could choose between enrolling in traditional on-campus courses or signing up for a parallel version available completely online. The results of these two pilots have been promising, MIT students rated the course as significantly less stressful compared to their on-campus classes. For online students, this could also improve the credibility of non-credit certificates (Shah, 2017).

Shah (2018a) identified several other MOOC trends in 2017, also strongly affecting the online entrepreneurship education offer. First of all, MOOC providers are still looking for a sustainable revenue model, from free courses, certificates, Micro-credentials, university credits, online degrees to corporate training. Second, the number of completely free MOOCs is constantly shrinking, one of the core features that distinguished MOOCs from other forms of online education in the past. Third, MOOC providers have realized that their real audience are not universities and the higher education market, but rather the labor market, in particular people who aim at achieving professional and career growth (also called "lifelong career learners"). Fourth, MOOCs have become increasingly flexible and convenient over the past years, adapting to the time constraints of many learners. Fifth, MOOC platforms have successfully entered into the markets for online degrees and corporate learning. Shah (2018b) stated that these two monetization models are what drives the revenue and fast growth of the big MOOC platforms, currently and especially in the future. Coursera for example announced almost \$10M in tuition from their online degrees, recently offered the first MOOC-based Bachelor's Degree and has already more than 1000 corporate partners (up from 30 in 2016 and 500 at the end of 2017). This will also heavily effect entrepreneurship education and there are already several online degrees in entrepreneurship available on different MOOC platforms. Also, corporations are increasingly using MOOCs for training and education of their workforce, such as intrapreneurship courses to foster employee innovation and the creation of ideas within their companies.

ENTREPRENEURSHIP MOOCS – STATE OF THE ART

The comparative analysis of entrepreneurship MOOCs has shown that the offer varies greatly in their focus on subject area, audience, content and other features. Various entrepreneurship online courses have already been offered in the 2000s (e.g. MIT OpenCourseWare “Entrepreneurial Marketing” in 2002) and one of the first European MOOCs was devoted to idea creation and creativity (ThinkTank - Ideal City of the 21st Century by Leuphana Digital School in January 2013). However, in recent years there was an exponential growth rate of entrepreneurship MOOCs in the global educational landscape. According to Class Central, the number of MOOCs relating to business and management rose from 339 courses in 2014 to 1685 (!) courses in 2018 (as of 28 August 2018). Different online repositories facilitate a search for finding the current offerings, in an appropriate timeframe (or self-paced), language, didactical approach, workload, subtopic, quality, certification options etc. The two biggest and most-widely known online repositories are:

- Class Central⁴: As of 28 August 2018, Class Central lists 238 entrepreneurship MOOCs (compared to 128 on 29 February 2016), of which 112 are future courses, 72 recently started or will be starting soon, and 49 are self-paced – which means, the majority are still or will be available and open for enrolment. Not all MOOCs listed are MOOCs in its closest definition as some of them ask for tuition fees. When classified by languages, English dominates (171 courses), followed by Spanish (26) and French (20). There is a rating system with reviews, however with an unequal distribution of user ratings per course (between 0 and 30), the meaningfulness could be questioned.
- MOOC List⁵: As of 28 August 2018, MOOC List provides an overview of 114 entrepreneurship MOOCs (compared to 61 on 26 August 2016). The majority of the listed MOOCs are the same listed by Class central, with only slight deviations.

The joint analysis of the above repositories revealed an unequal distribution of entrepreneurship themes in existing online courses. To summarize, there is a large number of distinctive course types, differing in duration. Their design is quite inclusive and they are addressed to university students as well as to the general public. A dominant majority of the courses are in English.

Figure 3 below presents a graphical overview of the potentially most important types of courses relating to entrepreneurship for independent learners. Some of these are plentiful while others are very scarce in the existing online offer.

The analysis of 238 MOOCs dedicated to entrepreneurship education revealed that the existing offer of online entrepreneurship courses is greatly dominated by courses on start-ups (bottom of figure 3). Within this vast group of courses, most concentrate on universal start-up skills and processes necessary to successfully launch a business. Several thematic subgroups of courses have been identified relating to start-ups in a specific context. Among these, a small number of courses focuses on international new ventures (born-globals) and developing knowledge and skills typical for international entrepreneurship, others refer to social entrepreneurship and still others to high-tech start-ups. Examples include:

⁴ Class Central, <https://www.class-central.com/subject/entrepreneurship>

⁵ MOOC List, <https://www.mooc-list.com/tags/entrepreneurship?static=true>

- *Developing Innovative Ideas for New Companies: The 1st Step in Entrepreneurship* by University of Maryland, platform: Coursera
- *Becoming an Entrepreneur* by MITx, platform: edX
- *Starting a business* by University of Leeds, platform: FutureLearn
- *Beyond Silicon Valley: Growing Entrepreneurship in Transitioning Economies* by Western Reserve University, platform: Coursera
- *Global entrepreneurship* by Taylor's University, platform: Openlearning
- *Changemaker MOOC - Social Entrepreneurship* by Universität Kiel, platform: iversity
- *Social Entrepreneurship* by Copenhagen Business School, platform: Coursera
- *Business Model Canvas: A Tool for Entrepreneurs and Innovators (Project-Centered Course)* by University System of Georgia, platform: Coursera

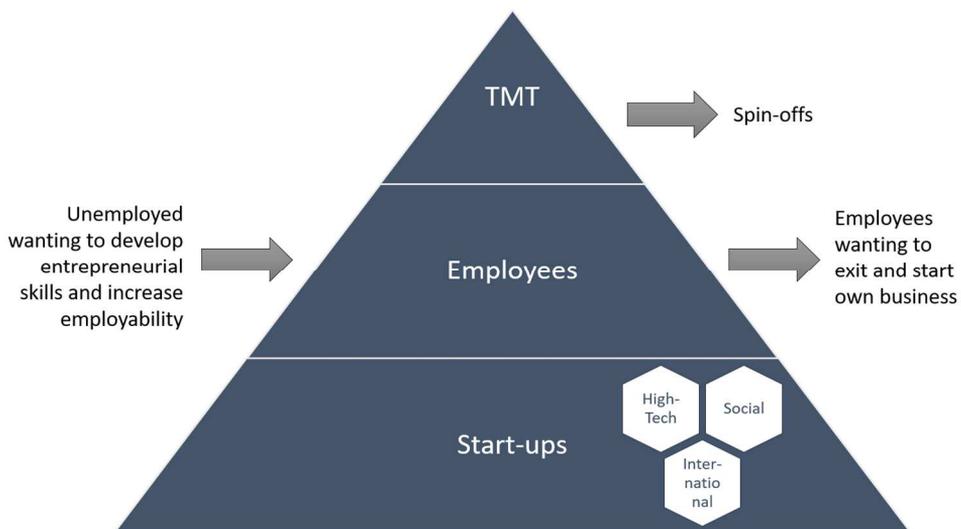


Figure 3. Types of online entrepreneurship courses (TMT = Top Management Team)

Source: own elaboration.

Second, several courses have been identified on up-scaling general entrepreneurial skills, as illustrated at the centre of the pyramid in figure 3. These are addressed to the general public and focus on developing creativity skills, opportunity recognition skills, time management skills, organizational skills and general management skills. These skills serve to reinforce entrepreneurial postures, enhance career development or to increase the employability of the unemployed. Examples include:

- *Visual Thinking for Business - Make Your Point* by WHU, platform: iversity
- *Design Thinking for Innovation* by University of Virginia, platform: Coursera
- *Diploma in Business Management & Entrepreneurship – Revised 2017* by XSIQ, platform: Alison
- *Entrepreneurial Strategic Management* by University of New Mexico, platform: Coursera
- *Critical & Creative Thinking (V2)*, platform: Openlearning

- *Cracking the Creativity Code: Discovering Ideas* by Israel Institute of Technology, platform: Coursera
- *Grow to Greatness: Smart Growth for Private Businesses Part I & II* by University of Virginia, platform: Coursera
- *Strategic Planning and Execution* by University of Virginia, platform: Coursera
- *Managing Responsibly: Practicing Sustainability, Responsibility and Ethics* by University of Manchester, platform: Coursera
- *Valuing Companies* by University of Michigan, platform: Coursera

Third, the top part of figure 3, relating to firm-level entrepreneurship, remains still largely unaddressed by online education. Courses dedicated to enhancing general entrepreneurial skills fall into this category to some extent. There is now a clear trend of courses dedicated to creating an entrepreneurship friendly environment or an entrepreneurial orientation of companies and courses dedicated to facilitating entrepreneurial behaviour of companies in the form of radical innovation, spin-offs or high-risk investments. Similarly, the scarce offer of courses dedicated to enhancing employee entrepreneurship (intrapreneurship) has been growing very slowly, compared to other mentioned above categories of courses.

MICRO-CREDENTIALS AND ENTREPRENEURSHIP EDUCATION: STATE OF THE ART

In the context of MOOCs and entrepreneurship education, an important trend is the rise of Micro-credentials over the last two years. According to a report by CTQ and Digital Promise (2016), Micro-credentials can be defined as a certification indicating demonstrated competency in a specific skill. CTQ and Digital Promise argue that Micro-credentials have four key characteristics: competency-based, personalized, on-demand and shareable.

Laurie Pickard (2018) recently published an analysis of 450 MOOC-based Micro-credentials offered on five MOOC platforms (Coursera, edX, Udacity, FutureLearn and Kadenze). Pickard states that micro-credentials consist of more than a single course, but are less than a full degree and can be seen as a response to the trend of modularity and stackability in higher education, enabling learners to basically create their own education “playlist”. However, Pickard concludes that the current offer of various micro-credentials lacks consistency and standardization, making it difficult to evaluate their significance and compare them, for both learners and employers. It is important to note that the majority of the offered micro-credentials by the 5 platforms is paid, with price ranges from a few hundred to a few thousand dollars. Learners can choose between payment for each course individually or pay upfront for the whole series, receiving a small discount (Pickard, 2018). Table 1 illustrates the 11 different types of micro-credentials on the market today (as of 28 August) on the five biggest MOOC platforms.

Building on Pickard’s (2018) 11 identified types of micro-credentials on the MOOC platforms Coursera, edX, Udacity, FutureLearn and Kadenze (as shown in table 1), the authors of this study conducted follow-up research focusing on micro-credentials in the area of entrepreneurship. Table 2 illustrates the full list of identified entrepreneurship micro-credentials on the 5 selected MOOC platforms, as of 28 August 2018. Summarizing appendix A, Coursera (9 English, 2 Spanish, 1 French) and edX (7 English, 1 Spanish) are the two leading providers of entrepreneurship micro-credentials of all 5

platforms evaluated. FutureLearn and Kadenze only offer one micro-credential respectively (both in English) and Udacity does not offer any micro-credential in the area of entrepreneurship at all. Similar to the previous analysis of the entrepreneurship MOOC offer, the majority of the currently provided micro-credentials is focusing on how to start your own business and teaching universal entrepreneurial skills.

Table 1. Micro-credentials on the Market Today

Platform	Micro-credentials
Coursera	Specialization, MasterTrack Certificate, Professional Certificate
edX	XSeries, MicroMasters, Professional Certificate
Udacity	Nanodegree
FutureLearn	Program, Graduate Certificate, Graduate Diploma
Kadenze	Program

Source: Pickard (2018).

Table 2. Overview of entrepreneurship micro-credentials on 5 MOOC platforms

Platform	Micro-credential Type	Title	Creator	No of courses	Language
Coursera	Specialization	Entrepreneurship	University of Pennsylvania	5	English
		Social Entrepreneurship	Copenhagen Business School	3	English
		Entrepreneurship: Launching an Innovative Business	University of Maryland	4	English
		Corporate Entrepreneurship: Innovating within Corporations	University of Maryland	5	English
		Doing Business in China	The Chinese University of Hong Kong	4	English
		Startup Entrepreneurship	Technion - Israel Institute of Technology	4	English
		How to Start Your Own Business	Michigan State University	6	English
		L'impact investing, la finance qui change le monde	ESSEC Business School	4	French
		Value Creation Through Innovation	EIT Digital	5	English
		Finanzas corporativas	Universidad Nacional Autónoma de México	6	Spanish
edX	Professional Certificate	Programa en Desarrollo de nuevas empresas	Universidad de los Andes	4	Spanish
		Innovation Management and Entrepreneurship	HEC Paris	12	English
		Business Principles and Entrepreneurial Thought	Babson College	6	English
	Micro-Masters	Entrepreneurship	Indian Institute of Management Bangalore	4	English

<i>Platform</i>	<i>Micro-credential Type</i>	<i>Title</i>	<i>Creator</i>	<i>No of courses</i>	<i>Language</i>
		Corporate Innovation	The University of Queensland	5	English
		Managing Technology & Innovation: How to deal with disruptive change	RWTH Aachen University	6	English
	Professional Certificate	Empresas familiares: emprendimiento y liderazgo para trascender	Tecnológico de Monterrey	2	Spanish
		Fintech	University of Hong Kong	3	Spanish
		Entrepreneurial Mindset and Leadership	Babson College	4	English
		Business Model Innovation	Delft University of Technology	4	English
Future Learn	Program	Social Enterprise	Middlesex University Business School	3	English
Kadenze	Program	Money Matters for Creative Entrepreneurs	Columbus College of Art & Design	3	English

Note: as of 28 August 2018

Source: own study.

The conducted analysis reveals that even though platforms like Udacity, FutureLearn and Kadenze offer various Micro-credentials for many subjects, they still lag behind when it comes to micro-credentials on entrepreneurship education and training. Moreover, the problem of standardization and variability, as identified by Pickard (2018), can also be confirmed for the current offer of entrepreneurship Micro-credentials. As a result, learners and employers are facing barriers when it comes to the comparison of different entrepreneurship micro-credentials offered online. Nevertheless, the Micro-credentials trend clearly responds to the needs and preferences of learners and employers looking for modularity, stackability and competence based education (Matkin, 2017).

CONCLUSIONS

The driving aim of this study was to evaluate the state of the art on the developments of MOOCs and Micro-credentials dedicated to entrepreneurship education. The study confirms prior claims that MOOCs are a strong current trend in the global entrepreneurship online courses movement. There is already an ongoing competition between providers to attract learners, which will be reinforced by the great number of entrepreneurship MOOCs and newer formats, such as Micro-credentials and full online degrees. The question will be how these offerings differentiate from each other and if the areas of company-level entrepreneurship, intrapreneurship and enlarging/furthering existing entrepreneurial skills will be tackled by MOOCs and follow-up formats.

The analysis highlights a shift which can already be recognized towards self-paced and regularly recurring courses and there are also tendencies to apply the original definition of MOOCs as free courses towards fee-required courses, as more and more content

gets locked behind paywalls, especially for certification. As the education sector itself is currently disrupted by entrepreneurship, innovation pressure and digitalization processes, it also has several impacts on entrepreneurship education (such as changing business and revenue models or content delivery channels). Today, the online entrepreneurship education sector is clearly dominated by several American MOOC platforms and content created by American universities and business schools, also severely affecting entrepreneurship education in general on a global level.

The research has identified the main topics of existing online courses devoted to entrepreneurship, which are: start-ups and universal entrepreneurial skills. Also, the number of courses in the area of corporate entrepreneurship has been rising over the last few years, as it clearly responds to the need of fostering entrepreneurial orientation and innovation within companies. Even though course topics and contents within entrepreneurship courses are extremely diverse, the focus is now clearly on entrepreneurship for entrepreneurs, increasingly using innovation tools, such as Business Canvas and Lean Approaches. Such tools have proven to be not only successful and applicable in the area of start-ups but also for corporates looking for constant innovation.

The analysis has also shown that course titles and descriptions not always reflect the actual content of MOOCs (e.g. mixing up idea generation and business modelling or firm-level entrepreneurship, corporate entrepreneurship and intrapreneurship). Many entrepreneurship courses also follow the same structural pattern, such as the development of a Canvas and a follow-up pitch by learners. This raises the question of whether this actually represents a useful and valuable application of learnings in entrepreneurship courses.

As reported by existing research and this study, many MOOC courses are rather superficial and there exists a clear gap of MOOCs teaching the validation of business models, using experimentation techniques for example. For the future, filling these “MOOC gaps” would be highly beneficial. Future research should focus on evaluating the deliverables of MOOCs and Micro-credentials and the value added created by these formats to the entrepreneurship competence of the learners. It would be highly recommended to evaluate existing MOOCs against the EU EntreComp Framework to recognize the consistency and reliability of entrepreneurship MOOCs and Micro-credentials for EU learners, educators and policy makers. This type of research would help mitigate the still existing problem of consistency and standardization of MOOCs, making it possible to evaluate their significance and compare them. This progress is necessary for both learners, educational institutions and employers as digital formats will most likely rise in scope and in popularity.

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Impact of economic crisis on business regulation reforms

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Abstract

The objective of this article is to identify link between the last economic crisis and business regulatory reforms. The data set contains the information about number of doing business reforms and its impact to selected countries' total ranking in doing business. The article presents review of empirical work available in scientific literature assessing how the regulatory environment for doing business affects productivity, economic growth, trade and investment. Available data shows that an economic crisis creates a stronger motivation for reform and how a simplified and competitive regulatory framework with reduced barriers can encourage business entrepreneurship and economic growth. The article expands the current knowledge on link between regulatory framework and economic growth. It includes both economic and legal overview in order to understand how the economic crisis affected the regulatory framework for doing business. It indicates the importance of an adequate legal framework that follows dynamic economic trends.

Keywords: Economic crisis; regulatory reforms; deregulation; doing business;

JEL codes: K2, K20

INTRODUCTION

It's been ten years since the world has suffered the last financial crisis. As many authors call it, the worst financial crisis since the Great Depression, has affected most countries in one way or another and some far more severely than others. (Barth, Kaufmann, 2015) Economies are more likely to implement regulatory reforms in the doing business areas when there is fiscal distress so numerous of affected countries already implemented regulatory reforms in their legal system and these include both reforms in financial regulatory system and business regulation framework.

Economic growth and development is impossible without effective economic governance. A good regulatory institutional environment is one that “establishes an incentive structure that reduces uncertainty and promotes efficiency, thereby contributing to stronger economic performance”. (Kirkpatrick, 2014, p. 162) Simplified and supportive legislative framework, adapted to the requirements of entrepreneurs, is necessary for achievement of stable and predictable economic growth and job creation. (Vujčić, Gongeta, 2018, p. 295)

Regulatory reform is one area where significant improvements in competitiveness can be made at little cost. (Kennedy, 2015, p. 3) The objective of this article is to identify link between the last economic crisis and business regulatory reforms.

The data set analysed in this article contains the information about number of doing business reforms and its impact to selected countries' total ranking in doing business. The article presents review of empirical work available in scientific literature assessing how the regulatory environment for doing business affects productivity, economic growth, trade and investment. According to the latest data in Doing business 2018¹ there is sample evidence of the positive impact of reforming in the business regulation areas with a historically higher number of reforms—namely starting a business, paying taxes and trading across borders. The regions with the highest share of reforming economies are Europe and Central Asia, South Asia and Sub-Saharan Africa. (Doing business 2018)

The structure of the article is as follows. Chapter two focuses on similar literature that proves statistically significant and positive relationship between the quality of the regulatory environment and economic growth. Chapter three emphasizes the importance of correcting the market failure and improvement of market competition through the adequate and effective regulatory framework for promoting competition and controlling the anti-competitive behaviour of dominant firms. In chapters four and five there are some examples of how reducing administrative burdens, simplifying regulation, strengthening competition and cutting red tape are reforms that pay off.

Also, the article analyses some empirical evidence how these kind of reforms are positively associated with higher manufacturing productivity growth in low-income economies and aggregate productivity growth in middle-income economies indicators.

¹ The Doing Business database provides annual cross-country rankings on 10 different components of regulatory burden on business: starting a business, construction permits, employing workers, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts, and closing a business. It measures aspects of regulation that enable or hinder entrepreneurs in starting, operating or expanding a business—and provides recommendations and good practices for improving the business environment

LITERATURE REVIEW AND THEORY DEVELOPMENT

Regulatory competition is an extremely complex area of law that is constantly evolving, and whose underpinning principles cross paths with economic and market theories. Its pervasive effects embrace many aspects including the market economy. (Lista, 2013)

Over the last two decades the relationship between regulations and business activity has been under investigation in many academic circles and in many articles. (Haidar, 2012, p.287) Over a 1000 research articles analysing how doing business regulation affects economic growth have been published in peer-reviewed academic journals in the past ten years.

As soon as the last financial crises emerged in year 2008 Becht et al. published their scientific research in which they examined the connection of deregulation of corporate law and how it affects the decision of entrepreneurs of where to incorporate. In the same year comparison of EU company law statutes also was made under the Association Internationale des Sociétés d'Assurance Mutuelle.

Available research's show a statistically significant and positive relationship between the quality of the regulatory environment and economic growth. The most of them, just like this article, are based on Doing Business data. In his research study Haidar (2012, p. 295) concludes that "Business regulatory reforms data from the World Bank Doing Business project, signals that reforms, which improved business and investment climate, may have helped to mitigate the effects of the 2008 global slump in economic growth."

Papers in the doing business regulatory environment literature very vary in "how much they can demonstrate casual effects between better business regulation and outcomes of interest".² For example, Djankov (2009) finds a statistically significant negative relationship between the regulatory business burden (measured using Doing Business database) and economic growth. Haider (2012) also uses the Doing Business database but replaces the annual regulatory status variable with a regulatory change variable, which measures the total number of regulatory reforms happening in a country over a 4-year period. (Kirkpatrick, 2014, p. 164) George Kaufman (2016) emphasizes that the prevention of a future crisis requires, among other things, the development of better regulation framework.

Like Eckardt (2014), Becht et al. (2008) and Djankov S. (2009), this article presents that simplifying the rules of starting a business positively affects the economic growth and competitiveness.

Following the last World Bank's publication (Doing Business in the European Union 2018: Croatia, the Czech Republic, Portugal and Slovakia, 2018), the analysis of business regulation for domestic firms in Croatia, the Czech Republic, Portugal and Slovakia and their enforcement in five crucial Doing Business areas is made.

MATERIAL AND METHODS

Economic regulation is intended to correct market failure and improve market competition. An important determinant of the success of regulatory reform therefore is the effec-

² https://elibrary.worldbank.org/doi/10.1596/978-0-8213-9984-2_Research_on_the_effects_of (15.9.2018.)

tiveness of the regulatory institutional framework³ for promoting competition and controlling the anti-competitive behaviour of dominant firms (Parker and Kirkpatrick, 2004).

Much of the quantitative evidence relating to the impact of regulatory reform is concerned with the effect on economic growth. The World Bank's Doing Business databases have been used to provide indicators of the quality of regulatory governance in developing countries. (Kirkpatrick, p. 164)

The indicators are used to analyse economic outcomes and identify what reforms of business regulation have worked, where and why. (Doing Business, 2018) In order to show how reforms in doing business regulation are connected to the country's ranking, the available data are analysed.

This article focuses on several doing business categories: starting a business, trading across borders, enforcing contracts and resolving Insolvency. These categories were selected by following criteria: Starting a business records the procedures, time, cost and paid-in minimum capital required for a small or medium size domestic limited liability company to formally operate. Trading across borders is important since international trade can be defined as a cornerstone of economic development and as access to international markets is strongly correlated with economic growth. Analysis of the enforcing contracts category shows how judicial system that provides effective commercial dispute resolution is crucial to a healthy economy. Talking about the last category: Resolving Insolvency, it is clear how access to finance is key to the development of the private sector so "A good insolvency framework—one with clear rules, that efficiently rehabilitates viable companies and liquidates non-viable ones—provides entrepreneurs and lenders with tools to evaluate the consequences of a worst-case scenario." (Doing business, 2018:56)

The article (including the Tables 1 and 2) cover studies and research articles that use Doing Business data for analysis and rely on conceptually and methodologically similar.

RESULTS AND FINDINGS

Reforming the Business Environment

Appropriate regulation which improves the business start-up environment, stimulates entrepreneurship and facilitates business creation. (Vujčić, Gongeta: 2018 p. 300)

Although many European Member States already adapted their legislative frameworks to the requirements of entrepreneurs, simplifying the legislation and reducing the regulatory costs on the European level is necessary in order to achieve a clear, stable and predictable regulatory framework that will support economic growth and job creation. (Vujčić, Gongeta: 2018, p. 295) More recent researches show how the reform of enterprise registration and licensing procedures has been a significant part of regulatory reform in numerous countries.

Over the past decade, more than 60 economies have reported more than 3,180 regulatory reforms. The most recoded reforms (38 in total) in 2016/17 were in the area of starting a business and getting credit. Simplifying registration formalities was the most common feature of reforms making it easier to start a business. The Table 1. brings an

³ In this article Douglass North's definition of the term "institution framework" is accepted and it refers to the set of informal and formal "rules of the game" that constrain political, economic, and social interactions (North, 1990, 1991)

overview of the number of doing business reforms made in selected countries since 2008. The countries are selected according to following criteria. New Zealand is ranked 1 among 190 economies in the ease of doing business, according to the latest World Bank annual ratings and it is the country that remained unchanged for last few years. Germany is selected as one of the strongest economies in the European Union, Croatia, Czech Republic, Portugal and Slovakia are selected because these countries are also selected for the latest subnational report of the Doing Business series in the European Union. And Serbia and Bosnia and Herzegovina are border countries with European Union and have interesting and better rank comparing with some European countries.

Table 1. The number of doing business reforms since 2008

Reforms/ Country	Total	Starting a business	Trading across borders	Enforcing contracts	Resolving Insolvency	Current rank among countries
New Zealand	12	1	0	2	1	1
Germany	14	5	4	1	1	20
Croatia	28	4	3	3	2	51
Czech Republic	28	6	1	3	2	30
Portugal	29	5	2	3	5	29
Slovakia	19	5	1	3	2	39
Serbia	26	5	1	3	5	43
B& H	18	2	1	1	1	86

Source: Doing business reforms: Reforming to Create Jobs; available at: <http://www.doingbusiness.org/en/reforms/reforms-count> (15.9.2018.).

As it is visible New Zealand made 12 total doing business reforms since the last financial crisis. According to the 2009 Doing Business annual report, in 2008 New Zealand made starting a business easier by making it possible to complete the process in one simple online registration in less than a day, made paying taxes less costly for companies by reducing the corporate income tax rate and introduced a reorganization procedure with the aim of providing an alternative to liquidation and receivership and maximizing a company's chances of continuing as a going concern. In following years New Zealand enacted new district court rules that make the process for enforcing contracts user friendly (year 2010); reduced its corporate income tax rate and fringe benefit tax rate, (year 2011) improved access to credit information by allowing credit bureaus to collect positive information on individuals (year 2012); made enforcing contracts easier by improving its case management system to ensure a speedier and less costly adjudication of cases (year 2013); improved access to credit information by beginning to distribute both positive and negative credit information (year 2014). In 2016 New Zealand made paying taxes easier by abolishing the cheque levy and made paying less costly by decreasing the rate of accident compensation levy paid by employers. As it is visible from the last Doing business report, in 2017 New Zealand made paying taxes even more easier by improving the online portal for filing and paying general sales tax and made enforcing contracts more difficult by suspending the filing of new commercial cases before the Commercial List of the High Court of New Zealand during the establishment of a new Commercial Panel.⁴

⁴ <http://www.doingbusiness.org/en/reforms/overview/economy/new-zealand> (15.9.2018.)

As one of the leading European Union economies, Germany is ranked 20 among 190 economies in doing business. Since the last financial crisis, Germany made 14 business reforms. Positive reforms were recorded from 2008 – 2013 starting with making starting a business easier by implementing electronic registration and introducing online publication of the incorporation notice; making paying taxes less costly for companies by reducing the corporate income and trade tax rates and by introducing straight-line depreciation for fixed assets and low-value asset write-offs below a certain threshold. The next step to start business easier was reducing the minimum capital requirement to a symbolic amount (1 Euro for so called Mini GmbH) followed with enhancing its insolvency process through the Act on the Implementation of Measures to Stabilize the Financial Market. In 2010 Germany eased business start-up by increasing the efficiency of communications between the notary and the commercial registry and eliminating the need to publish an announcement in a newspaper. The resolving process was improved by adopting a new insolvency law that facilitates in-court restructurings of distressed companies and increases participation by creditors. Positive wave of regulatory reforms was stopped in 2014 when Germany made starting a business more difficult by increasing notary fees and made more expensive to register property by increasing the property transfer tax. The last business reform was recorded in Doing business 2016 Annual report when Germany made starting a business easier by making the process more efficient and less costly.⁵

Croatia is ranked 51 in doing business according to the latest Doing business 2018 Annual report. There were 28 business reforms in this country since 2008. The ones that made starting a business easier was enhancing the services of the one-stop shop, allowing limited liability companies to file their registration application with the court registries electronically through the notary public (2010) and reducing notary fees (2014). In 2015 Croatia made starting a business more difficult by increasing notary fees.⁶

Czech Republic is ranked 30 among 190 world economies. This country made continuous improvement in business regulation with made reforms. It started with reducing the time required to start a business by fully implementing improvements in its company registration process and was followed by reduced time and number of procedures to start a business by introducing “Project Czech Point,” which makes it possible to obtain multiple registration-related documents in one place. In 2014 the Czech Republic made starting a business even easier by substantially reducing the minimum capital requirement and the paid-in minimum capital requirement. Next year doing business was made easier by reducing the cost and the time required to register a company in commercial courts by allowing notaries to directly register companies through an online system (2016) and the last reform was made in 2017 by reducing the cost and the time required to register a company in commercial courts by allowing notaries to directly register companies through an online system.⁷

The 29 ranked country, Portugal made the last reform in starting a business in 2013 and it was eliminating the requirement to report to the Ministry of Labor. Previous reforms in this category were made in 2008 by eliminating outdated formalities, simplifying requirements for company registration and implementing an online incorporation sys-

⁵ <http://www.doingbusiness.org/en/reforms/overview/economy/germany> (15.9.2018.)

⁶ <http://www.doingbusiness.org/en/reforms/overview/economy/croatia> (15.9.2018.)

⁷ <http://www.doingbusiness.org/en/reforms/overview/economy/czech-republic> (15.9.2018.)

tem for use by lawyers and in 2011 when Portugal made starting a business easier by allowing company founders to choose the amount of minimum capital and make their paid-in capital contribution up to 1 year after the company's creation, and by eliminating the stamp tax on company's share capital subscriptions.⁸

Next selected country for analyzing in this article, 39 ranked Slovak Republic, made 19 doing business reforms in total. Slovak Republic made positive changes for starting a business through its one-stop shop, which merged 4 procedures into 1 and reduced costs (2008) and by speeding up the processing of applications at the one-stop shop for trading licenses, income tax registration and health insurance registration (2012). The positive period of regulatory reforms was stopped in 2013 when the Slovak Republic made starting a business more difficult by adding a new procedure for establishing a limited liability company. In following years (2014, 2015) some positive reforms were made by reducing the time needed to register with the district court and eliminating the need (and therefore the fee) for the verification of signatures by a notary public and by simplifying the process of starting a business by introducing court registration at the one-stop shop. 2015 was the year when the last reforms in starting a business were recorded.⁹

Serbia and Bosnia and Herzegovina are the countries bordering the European Union and are very important, especially for the cross border trade. Therefore, it is important to analyze their regulatory framework and reforms made in doing business category. Comparing these two countries, Serbia is ranked 43, double than the Bosnia and Herzegovina 86 and made 26 business reforms in total. B&H made 18 business reforms since the last financial crisis. Analyzing the available data in Doing business annual reports, it is clear that Serbia made only positive changes in starting a business reforms. First, Serbia made starting a business easier by creating a one-stop shop for company registration (2009), than in 2012 Serbia eliminated the paid-in minimum capital requirement, in 2016 they simplified the process of starting a business by reducing the time to register a company and finally Serbia made starting a business easier by reducing the signature certification fee and increasing the efficiency of the registry, reducing the time for business registration.¹⁰

Another EU neighbor/border country, Bosnia and Herzegovina made 18 doing business reforms in the past decade. The ones important for starting a business were made in 2011 and 2016 when starting a business was made easier by replacing the required utilization permit with a simple notification of commencement of activities and by streamlining the process for obtaining a tax identification number and when the paid-in minimum capital requirement for limited liability companies was reduced and the efficiency of the notary system was increased.¹¹

DISCUSSION

The Impact of Regulatory Reform

Private sector impacts both economic and social development. Available results show a positive relationship between registration and licensing reform and various indicators of

⁸ <http://www.doingbusiness.org/en/reforms/overview/economy/portugal> (15.9.2018.)

⁹ <http://www.doingbusiness.org/en/reforms/overview/economy/slovakia> (15.9.2018.)

¹⁰ <http://www.doingbusiness.org/en/reforms/overview/economy/serbia> (15.9.2018.)

¹¹ <http://www.doingbusiness.org/en/reforms/overview/economy/bosnia-and-herzegovina> (15.9.2018.)

economic performance, including the number of new registrations, size of the formal sector, employment growth, and tax revenues. (Kirkpatrick, 2014, p. 165) In his research article Haidar (2012) concludes that business regulatory reforms increase economic growth and competitiveness. The Table 2. Analyses the ease of doing business index ranks of selected countries against each other based on how the regulatory environment is conducive to business operation stronger protections of property rights where economies with a high rank have simpler and friendlier regulations for businesses. (Trade economics, 2018)

Table 2. Ease of doing business rank of selected countries

Country	Actual	Previous	Highest	Lowest	Dates
New Zealand	1	1	3	1	2008 - 2017
Germany	20	17	27	14	2008 - 2017
Croatia	51	43	110	39	2008 - 2017
Czech Republic	30	27	75	26	2008 - 2017
Portugal	29	25	48	23	2008 - 2017
Slovakia	39	33	49	29	2008 - 2017
Serbia	43	47	93	43	2008 - 2017
B&H	86	81	131	79	2008 - 2017

Source: Data used from trading economies, available at: <https://tradingeconomics.com/country-list/ease-of-doing-business> (15.9.2018.).

As earlier said, New Zealand is ranked 1 among 190 economies in the ease of doing business, according to the latest World Bank annual ratings. The rank of New Zealand remained unchanged at 1 in 2017 from 1 in 2016. Ease of Doing Business in New Zealand averaged 2.10 from 2008 until 2017, reaching an all-time high of 3 in 2010 and a record low of 1 in 2015. (Doing Business, 2018)¹²

Germany is ranked 20 among 190 economies in the ease of doing business, according to the latest World Bank annual ratings. The rank of Germany deteriorated to 20 in 2017 from 17 in 2016. Ease of Doing Business in Germany averaged 19.60 from 2008 until 2017, reaching an all-time high of 27 in 2008 and a record low of 14 in 2015.¹³

The rank of Croatia deteriorated to 51 in 2017 from 43 in 2016. Ease of Doing Business in Croatia averaged 72.10 from 2008 until 2017, reaching an all-time high of 110 in 2008 and a record low of 39 in 2014. (Doing Business, 2018)¹⁴

Analysing the Czech Republic ranking it is visible that the rank of this country deteriorated to 30 in 2017 from 27 in 2016. Ease of Doing Business in Czech Republic averaged 53.30 from 2008 until 2017, reaching an all-time high of 75 in 2013 and a record low of 26 in 2015. (Doing Business, 2018)¹⁵

According to the latest available data, the rank of Portugal deteriorated to 29 in 2017 from 25 in 2016. Ease of Doing Business in Portugal averaged 31.70 from 2008 until 2017, reaching an all-time high of 48 in 2009 and a record low of 23 in 2014. (Doing Business, 2018)¹⁶

¹² <https://tradingeconomics.com/new-zealand/ease-of-doing-business> (15.9.2018.)

¹³ <https://tradingeconomics.com/germany/ease-of-doing-business> (15.9.2018.)

¹⁴ <https://tradingeconomics.com/croatia/ease-of-doing-business> (15.9.2018.)

¹⁵ <https://tradingeconomics.com/czech-republic/ease-of-doing-business> (15.9.2018.)

¹⁶ <https://tradingeconomics.com/portugal/ease-of-doing-business> (15.9.2018.)

Slovakia is ranked 39 among 190 economies in the ease of doing business. The rank of Slovakia deteriorated to 39 in 2017 from 33 in 2016. Ease of Doing Business in Slovakia averaged 39.10 from 2008 until 2017, reaching an all-time high of 49 in 2013 and a record low of 29 in 2014. (Doing Business, 2018)¹⁷

The rank of Serbia improved to 43 in 2017 from 47 in 2016. Ease of Doing Business in Serbia averaged 75 from 2008 until 2017, reaching an all-time high of 93 in 2013 and a record low of 43 in 2017. (Doing Business, 2018)¹⁸

The rank of Bosnia and Herzegovina deteriorated to 86 in 2017 from 81 in 2016. Ease of Doing Business in Bosnia and Herzegovina averaged 107.60 from 2008 until 2017, reaching an all-time high of 131 in 2013 and a record low of 79 in 2015. (Doing Business, 2018)¹⁹

Following the previous analysis of available data in Table 1, the ranking can be linked to the continuity in both positive and negative doing business reforms in these countries.

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The role of university in influencing the entrepreneurial intention of university students

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Abstract

In this paper we identify the factors of university student entrepreneur's entrepreneurial motivations, and we check the nature of the relationship of these factors with university level entrepreneurship education characteristics. The 2016 data of the Global University Entrepreneurial Spirit Students' Survey was used for the tests in the four Visegrad countries: the Czech Republic, Hungary, Poland, and Slovakia. We define five factors of entrepreneurial motivation: Customer focus, Social mission, Collective/community goals, Individual goals and Competition/market focus. Entrepreneurship education characteristics are weakly correlated with some of these factors. The strongest relationship can be detected in case of Competition/market focus. Our findings suggest that university level entrepreneurship education in the Visegrad region might influence the analytical skills of young entrepreneurs, but the social and community mission of the student entrepreneurs are less developed. We conclude that entrepreneurship education should focus more on the development of these intrinsic motivations.

Keywords: entrepreneurial motivation; entrepreneurship education; GUESSS; student entrepreneurship; Visegrad countries

JEL codes: I26, L26

INTRODUCTION

The connection between economic growth and entrepreneurship assumed by theoretical models, and backed by empirical tests (e.g. van Stel et al., 2005) directs a lot of attention toward entrepreneurship education. Entrepreneurship education, if done properly, should encourage the young to start and run competitive businesses. Given that the entrepreneurial activity, and especially the efficacy of the enterprises is relatively weak among the Visegrad countries (Acs et al., 2016), entrepreneurship education is important in the region.

This paper uses data gained from the 2016 Global University Entrepreneurial Spirit Students' Survey to identify the main motivation factors of university student entrepreneurs (which greatly impact the entrepreneurial intention). Following the cluster analysis, we test the relationship between the motivation factors, and different variables of entrepreneurship education at Visegrad country universities. The goal is to uncover factors that could have a positive impact on the entrepreneurial motivation, which generates positive changes in entrepreneurial intentions, and leads to higher and more effective entrepreneurial activity.

We start the paper with a literature review on entrepreneurship education, and its effect on intentions, followed by a review of entrepreneurial intentions. Section two describes the data gained from the GUESSS database. The presentation of our results in chapter three is followed by the discussion and conclusion section.

LITERATURE REVIEW

The literature on the actual effect of entrepreneurship education on entrepreneurial intentions and activity is very diverse, and non-conclusive. The defining of entrepreneurship education, as a start, is viewed very differently by the experts. Some (e.g. Alberti, 1999) take a rather strict approach, and see entrepreneurship education as the combination of passing on theoretical knowledge, and actually helping students in starting their own businesses. This latter element is not regarded as a necessary component by the majority of the scholars doing research on the field. Three different models can be identified in this field: knowledge transfer, and business plan creation (Sanchez, 2011); experimental education through entrepreneurial projects (Bechard & Gregoire, 2005); and problem-solving through interaction (Gilbert, 2012). Fayolle and Gailly (2014) identify five levels of entrepreneurship education (transferring know-why, know-how, know-who, know-when, and know-what).

It may seem trivial that the effect of education is positive on entrepreneurial intentions, but as it is showed in detail by Weber et al. (2009), education may even decrease intentions, if students taking part in it realise the risks and dangers associated with the entrepreneurial activity. Nonetheless, most empirical test show a positive impact of education on intentions (e.g. Jones et al., 2008; Bilic et al., 2011).

The dominant model of entrepreneurial intentions is based on the theory of planned behaviour (Ajzen, 1991), and the idea of the entrepreneurial event (Shapero, 1982), and was developed by Krueger and his associates. This linear model of entrepreneurial intentions suggests that intentions are influenced by perceived feasibility (self-efficacy, the confidence of the individual in successfully addressing the entrepreneurial challenges),

and by perceived desirability (the desire of the individual to start tasks related to entrepreneurship) (Krueger et al., 2000). Motivations in this model are drivers of the latter, perceived desirability (e.g. Douglas, 2013; Antonioli et al., 2016).

Existing motivational theories are mostly rooted in economics and psychology, and they often conflict with each other. One group of theories concentrates on the so called push factors; the so called drive theories. Another one focuses on the pull factors; it is called the incentives approach. Entrepreneurs are motivated by both achieving a certain success, and avoiding failure (Deci, 1975). Motivation can come internally (intrinsic motivation), and externally (extrinsic). Intrinsic motivation comprises of intangible motives that endogenously foster an entrepreneur to make a move. The need for achievement, self-actualisation or reciprocity are all examples of such intrinsic motivations (Nuttin, 1984). Extrinsic motivation on the other hand refers to external rewards (e.g. recognition, monetary payoff).

Empirical tests confirm the idea that motivations influence behaviour, and so they are an important influencer of entrepreneurial intentions and activity. Ryan and Deci (2000) find that if the competence, relatedness and autonomy needs of the individual are satisfied, intrinsic motivation is the primary influencer. If, however, the above needs are not met, extrinsic motivators become dominant in behaviour. Although not an empirical, but rather a theoretical investigation, Benabou and Tirole (2003) show in their analysis how intrinsic and extrinsic motivations effect the individual's behaviour in different circumstances.

Sieger et al. (2016) investigate the social identity of entrepreneurs. They also use the GUESSS database, and concentrate on the same entrepreneurial motivation questions. Following some adjustments (deleting some questions from the analysis), they establish three factors, that they identify as Darwinian, Communitarian, and Missionary identities. They also find that there are significant regional differences in entrepreneurial identities among Western regions.

DATA AND METHODS

GUESSS (Global University Entrepreneurial Spirit Students' Survey) investigates entrepreneurial intentions and activities of university students. The survey explores the students' career intentions, the families' and students' own businesses and investigates their motivations and goals, their orientation and behaviour in their business activity. It also analyses the role of higher education and culture in the decision.

The first survey was conducted in 2003 with the participation of two countries. In 2016 50 countries had joined the project and 122,509 students sent their responses to the questionnaire. In the framework of this paper we investigate the sample of the Visegrad countries (Czech Republic, Hungary, Poland and Slovak Republic). Table 1 shows the distribution of the sample according to the countries and the descriptive statistics of the respondents.

The share of entrepreneurs within the sample is not homogenous in the selected countries. The Czech Republic has the highest share with 10.1% of the respondents running a business of their own, while Poland (3.8%) has the lowest share of entrepreneurs.

50.7% of the entrepreneurs is self-employed, and the ratio of micro enterprises is also high in all Visegrad countries. There is considerable heterogeneity in the sample ac-

ording to firm size: Poland has the lowest share of entrepreneurs among university students, but the highest share of larger firms.

Table 1. Descriptive statistics of the Visegrad Four respondents (2016)

Country	Study level, sex	%	Area of studies	%
Hungary 5,182 re- spondents	Undergraduate	73.1	Arts / Humanities	3.8
	Graduate	14.4	Engineering	28.0
	Other	12.5	Human medicine / health sciences	15.5
	Female	58.6	Law & economics	33.2
	Male	41.4	Mathematics and natural sciences	4.6
			Art sciences	0.5
			Social sciences	4.7
			Other	9.7
Poland 6,388 re- spondents	Undergraduate	73.9	Arts / Humanities	3.8
	Graduate	22.9	Engineering	24.5
	Other	3.2	Human medicine / health sciences	7.2
	Female	64.4	Law & economics	31.7
	Male	35.6	Mathematics and natural sciences	4.9
			Art sciences	0.1
			Social sciences	7.7
			Other	20.0
Czech Re- public 1,135 re- spondents	Undergraduate	57.2	Arts / Humanities	5.1
	Graduate	39.7	Engineering	20.0
	Other	3.1	Human medicine / health sciences	4.1
	Female	62.2	Law & economics	46.6
	Male	37.8	Mathematics and natural sciences	4.8
			Art sciences	3.5
			Social sciences	2.5
			Other	13.5
Slovak Republic 3,266 re- spondents	Undergraduate	56.3	Arts / Humanities	11.6
	Graduate	37.3	Engineering	10.4
	Other	6.4	Human medicine / health sciences	7.8
	Female	71.0	Law & economics	38.2
	Male	29.0	Mathematics and natural sciences	9.1
			Art sciences	0.9
			Social sciences	12.9
			Other	9.1

Source: own calculations based on GUESSS 2016 database; Arts / Humanities (linguistics, cultural studies, religion, philosophy, history); Social sciences (psychology, politics, educational science); Engineering (including computer sciences and architecture); Art sciences (art, design, dramatics, music).

Mainly descriptive statistics were used to describe entrepreneurial motivations in the Visegrad countries, and the stochastic relationships among the variables were tested. We consider these methods appropriate for highlighting the main differences among the analysed countries' entrepreneurs. SPSS 25.0 software was used for the analyses. The structure of the tables follows the logic of the output tables of the software.

Table 2. The share of those who answered yes to the question: Are you already running your own business / are you already self-employed?

	Ratio of entrepreneurs	Within this				
		self employed	micro	small	medium	large
Poland	3.8	45	45	7	3.1	0
Czech Republic	10.1	53.4	42.7	2.9	1	0
Slovak Republic	6.9	58.3	39.4	2.3	0	0
Hungary	5.6	48.4	47.7	3.9	0	0

Source: own study.

RESULTS

Factors of entrepreneurial motivation

The motivation and goals were surveyed by Question 9.2 of GUESSS. The first batch of questions discovered the motivations that were most important when starting the business, the second investigated the primary motives of the founders and the third batch of questions concentrated on the most important goals during the operation of the firm (for the list of questions see Table 3).

There are significant differences among countries in case of all motives and goals (the value of Eta is between 0.15 and 0.3, $p=0,000$). Further differences can be detected according to sex, age, evaluation of the higher education environment, and study field. The outcomes, however, are very difficult to map because of the high number of variables. In order to decrease the number of variables, and to get a better idea of the background structure, a factor analysis was conducted, and 5 factors were identified.¹ The value of the Kaiser-Meyer-Olkin is 0.89, which means that our data are perfectly suited for a factor analysis. The 5 factors explain 69.78% of the total variance. Table 3 shows the factor weights of all the variables belonging to our 5 factors.

Based on the factor analysis we can conclude that there are 5 distinctive motivations of university student entrepreneurs in the CEE countries: 1) having a strong customer focus; 2) following social missions; 3) concentrating on community goals; 4) pursuing individual goals; and 5) concentrating on market competition. In the following section we provide a short description of the 5 factors.

1. Customer focus: The first motivation factor is to identify and serve the special needs of the customers, which also means that the entrepreneurs with a strong customer focus motivation tend to focus on a specific group of customers instead of the wider public. The customer focus is an intrinsic motivations, and it has four components in our analysis (see Component 1 in Table 3).

¹ For a better fit, we have excluded three variables from the analysis. These are the following: ... to have thoroughly analysed the financial prospects of my business; ...to do something that allows me to enact values which are core to who I am; ... to solve a societal problem that private businesses usually fail to address (such as social injustice, environmental protection).

2. Social mission: One of the motivators is to follow a strong societal agenda, play a proactive role in trying to change the society, solve social problems, and spread specific values in the community. The social mission is a purely intrinsic motivation that includes five variables according to our analysis (see Component 2 in Table 3).

Table 3. Factor weights and factors of entrepreneurial motivations

Rotated Component Matrix ^a					
	Component				
	1	2	3	4	5
... to be able to express to my customers that I fundamentally share their views, interests and values.	.800				
... to convey to my customers that I want to satisfy their needs rather than just to do business.	.780				
... to provide a product/service that is useful to a group of people that I strongly identify with (e.g., friends, colleagues, club, community).	.739				
... to be true in serving a group of people that I strongly identify with (e.g., friends, colleagues, club, community).	.719				
... to make the world a "better place" (e.g., by pursuing social justice, protecting the environment).		.811			
... to be a highly responsible citizen of our world.		.716			
... to convince others that private firms are indeed able to address the type of societal challenges that my firm addresses (e.g., social justice, environmental protection).		.705			
... to have a strong focus on what the firm is able to achieve for society-at-large.		.679			
... to play a proactive role in changing how the world operates.		.652			
... to play a proactive role in shaping the activities of a group of people that I strongly identify with (e.g., friends, colleagues, club, community).			.791		
... to solve a specific problem for a group of people that I strongly identify with (e.g., friends, colleagues, club, community).			.765		
... to support and advance a group of people that I strongly identify with.			.598		
... to have a strong focus on a group of people that I strongly identify with (e.g., friends, colleagues, club, community).			.597		
... to be able to signal my capabilities to others (i.e., future employers, colleagues).			.439		
... to mainly achieve financial success.				.880	
... to make money and become rich.				.844	
... to advance my career in the business world.				.659	
... to have a strong focus on what my firm can achieve vis-à-vis the competition.					.845
... to establish a strong competitive advantage and significantly outperform other firms in my domain.					.836
... to operate my firm on the basis of solid management practices.					.540

Source: own elaboration; Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 8 iterations.

3. Social mission: One of the motivators is to follow a strong societal agenda, play a proactive role in trying to change the society, solve social problems, and spread spe-

- cific values in the community. The social mission is a purely intrinsic motivation that includes five variables according to our analysis (see Component 2 in Table 3).
4. Collective/community goals: Similarly to the previous one (Factor 2), this factor also includes variables that are focused on solving social challenges, and playing a proactive role in the community. The difference between the two factors is the scope: while Factor 2 includes goals that concern the society as a whole, Factor 3 is limited to smaller, specific communities. In this sense, Factor 3 is the closest to the motivations of the social entrepreneurs. Five variables form our final factor (see Component 3 in Table 3).
 5. Individual goals: Factor 4 is the only one in our analysis that includes extrinsic motivations (financial success, career advancement etc.) (see Component 4 in Table 3).
 6. Competition/market focus: The final group of motivators prompt to an analytical focus (the goal is to have a very good understanding about the market position of the firm, about the strength and opportunities), and the strong will to compete and to outperform the competitors. Yet another intrinsic motivation, with three variables (see Component 5 in Table 3).

The influence of education

GUESSS has three groups of questions that can be used to check the impact of education on the entrepreneurial process. The first one asked the students to evaluate the entrepreneurial nature of the university's environment. Respondents were asked to give their evaluations on a 1-7 Likert scale. Hungarian responses had the lowest score, while the mean of Polish answers was the highest. The Kruskal-Wallis test shows that there are significant differences among the countries in this area.

Table 4. Students' evaluation of the universities' entrepreneurial environment in the Visegrad countries

	Hungary	Poland	Czech Republic	Slovak Republic
The atmosphere at my university inspires me to develop ideas for new businesses	3.63	4.00	3.92	3.47
There is a favourable climate for becoming an entrepreneur at my university	3.64	4.19	3.79	3.42
At my university, students are encouraged to engage in entrepreneurial activities	3.55	4.42	3.80	3.49

Source: own study.

The second group of question was phrased to evaluate the courses and training concentrating on the development of entrepreneurial knowledge and skills. The Visegrad countries have different means in this area as well (proved again by the results of the Kruskal-Wallis test).

The third group of questions surveyed the presence of entrepreneurship-related courses in the curricula. According to the responses, almost half of the students has not had any courses that had entrepreneurship as the main topic. The ratio is worst in the Czech Republic (53.2%), and best in Poland, where only 30% of the respondents reported that they did not have any entrepreneurial courses.

Table 5. Students' evaluation of the courses and training offered by the universities on entrepreneurship

	Hungary	Poland	Czech Republic	Slovak Republic
...increased my understanding of the actions someone has to take to start a business.	3.72	3.84	3.93	3.55
...enhanced my practical management skills in order to start a business.	3.65	4.10	3.74	3.42
...enhanced my ability to develop networks.	4.37	4.05	4.05	3.90
...enhanced my ability to identify an opportunity.	4.45	4.57	4.01	4.00

Source: own study.

Poland also takes the lead in elective entrepreneurial courses: 33% of the students have opted for such elective courses in the country. Higher ratios can be found in compulsory entrepreneurial courses, but the differences among the Visegrad countries are still there. Poland is also a frontrunner in student participation in entrepreneurship programmes, as well as in the share of students who chose their respective universities mainly because of its strong entrepreneurial reputation.

Table 5. Entrepreneurship courses in the Visegrad country universities

	Hungary	Poland	Czech Republic	Slovak Republic
I have not attended a course on entrepreneurship so far.	44.4	30.4	53.2	40.0
I have attended at least one entrepreneurship course as elective.	26.4	33.0	28.1	24.5
I have attended at least one entrepreneurship course as compulsory part of my studies.	40.8	38.6	22.1	38.0
I am studying in a specific program on entrepreneurship.	3.0	27.4	7.1	11.7
I chose to study at this university mainly because of its strong entrepreneurial reputation.	4.7	12.3	3.8	8.9

The proportion of respondents who answered yes.

Source: own study.

Differences in responses are partially explained by the study field and level of the students, and also by the number of years spent at the universities, but if we control for these variables, there are still significant differences among the four countries. This was proved by running binomial logistic regression on the data.

The influence of education on entrepreneurial motivations

Given that there is a strong correlation among the responses given to the questions evaluating the entrepreneurial atmosphere of the university, and also on the ones evaluating the courses and training, these variables can be combined. In both cases the mean of the responses was calculated, and then we tested whether there is a correlation between the means, and the entrepreneurial motivation factors. Table 6 summarises the correlation coefficients. Significant relationships can be detected in case of three factors: Social mission (Factor 2), Collective/community focus (Factor 3), and Competi-

tion/market focus (Factor 5). The strongest correlation was found with Factor 5, which is not surprising given that the typical entrepreneurship course focuses on knowledge related to market and competition evaluation, on analytical tools that help to boost the efficiency of the enterprise.

Table 6. Correlation between the motivation factors, and the mean of two education-related variables: evaluation the entrepreneurial atmosphere of the university, and evaluation of the entrepreneurship-related courses and training (Visegrad countries combined)

		University atmosphere	Studies
Customer focus	Pearson Correlation	-.013	-.029
	Sig. (2-tailed)	.712	.423
Social mission	Pearson Correlation	.122**	.145**
	Sig. (2-tailed)	.001	.000
Collective / community focus	Pearson Correlation	.098**	.133**
	Sig. (2-tailed)	.006	.000
Individual focus	Pearson Correlation	.040	.036
	Sig. (2-tailed)	.263	.311
Competition / market focus	Pearson Correlation	.174**	.198**
	Sig. (2-tailed)	.000	.000

** Correlation is significant at the 0.01 level (2-tailed).

Source: own study.

Country-level analysis reveals that it is only Factor 5 (Competition/market focus) which is correlated with the education variables in all countries. Factor 3 (Collective/community focus) is in significant correlation with the entrepreneurial course evaluation in three countries (Slovakia is the exception). Social mission (Factor 2) on the other hand is only significantly correlated in Hungary, and partially in Poland.

Table 7. Country-level correlation between the motivation factors, and the mean of two education-related variables

	University atmosphere				Studies			
	Hungary	Poland	Czech Republic	Slovak Republic	Hungary	Poland	Czech Republic	Slovak Republic
Customer focus								
Social mission	.206**				.235**	.196**		
Collective/community focus	.174**		.357**		.166**	.164*	.261*	
Individual focus	.128*							
Competition/market focus	.165**	.140*		.209**	.170**	.178**	.201*	.259**

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Source: own study.

The third group of variables (courses taken in the topic entrepreneurship) are only correlated with Competition/market focus. The value of the factor increases if the re-

spondent has taken such courses, but the value of the Eta is low, so the relationship is low between the variables.

DISCUSSION AND CONCLUSION

We identified five factors of entrepreneurial motivation: 1) having a strong customer focus; 2) following social missions; 3) concentrating on community goals; 4) pursuing individual goals; and 5) concentrating on market competition. These factors explain around 70% of the variance in responses given to questions measuring the motivation of university students in the Visegrad countries. Three of the factors are clearly intrinsic, Factor 4 is extrinsic, while Factor 5 is complex. It includes intrinsic elements (the drive to beat the competitors, and be the best), but it also includes analytical elements such as market analysis, survey of competitors, the will to base the operation of the firm on solid management practices.

We have also found that some features of university entrepreneurship education are correlated with the factors of entrepreneurial motivation. The correlation coefficients, however, suggest a weak relationship. The strongest relations could be identified in case of Factor 5, Competition/market focus. Factor 5 is correlated with the university atmosphere (how much support the students believe the university atmosphere provides to develop their own business ideas), the evaluation of entrepreneurship-related courses (how useful the students found them to develop skills important for entrepreneurship), and also the participation in such entrepreneurship courses. The relationships are all positive, so higher and more efficient activity of the universities in these areas could increase the students' competition drive.

The university atmosphere and the course quality is also correlated with intrinsic motivations, like Social mission (Factor 2), and Community focus (Factor 3) in the Visegrad region. A country-level analysis reveals, that these factors might be influenced by the education in Poland, and in Hungary. In the other countries the relationship is generally not significant.

One of the conclusions we can draw from these findings is that universities could do better with their entrepreneurship education. They mostly influence the Competition focus of the students, so the education has an effect on the Know-what level of Fayolle & Gailly (2014), or Bilic et al. (2011). These courses should be remade so that they would focus more on the social and community drives of the students. These motivations are already there, it is just not made clear to the students that these drives can be made real by starting a business on their own.

One of the possibilities of further research is to focus on countries, especially Hungary and Poland, and even on those universities, where the social and community mission of students is stronger correlated with the education characteristics. This analysis has to be qualitative in nature, and could help in identifying factors crucial in strengthening the social motivation of the young entrepreneurs.

The data used represent responses recorded in 2016. For this reason we cannot detect changes in the mind-set of students over time. Although GUESSS is repeated every second year, the number of students who took part in at least two surveys is extremely limited, so time comparisons could not be made. This is one of the limitations of our results. Another one is that GUESSS focuses on university students alone, while the entrepreneurial youth is wider than that.

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When successor becomes the leader of international family business? – a case study from Poland

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Abstract

Leadership succession is a significant challenge for all family businesses. Despite this many family businesses do not have clear plans nor systematic processes for implementation trans-generational change (Fang et al, 2015). Family business owners believe that succession is a natural process and successors become leaders naturally. If that was it, then more than 30% would survive the first generation, around 15% would survive to the third generation, and more than 3% would survive to the fourth generation (Vera and Dean, 2005). Although much research has been dedicated to family business succession and preparing successors there is still no in-depth research showing the path needed to cross from successor to a true leader in family firm. The idea that a family business succession can have an impact on the financial structure and performance of a firm should be no surprise given that a business transfer is one of the most important and critical events in the life cycle of any family firm. Moreover, successions will gradually gain more importance in the next coming years because of the retirement of a substantial amount of business leaders. It is therefore important to study business transfers, as doing so can lead to more insights into best practices regarding how to carry out a succession and on the way in which the business is expected to change because of the transition event. Martin and Lumpkin

(2004) find that in successive generations entrepreneurial orientation tends to diminish and give way to family orientation, as stability and inheritance concerns become the business's principal drivers. Central in the succession process is that the management of the family business end up in the hands of a competent and well-motivated successor. But there is still not clear what are what does it mean for successor and family business. We know that succession process has the potential to disrupt and even to destroy successful businesses, irrespective of their financial or market power (Bozer, Levin, Santora, 2017) but in some cases a succession, particularly when an successor is involved, can lead a family business to new markets, new ways of acting and thinking (Ward, 1987; Ibrahim et al. , 2001; Menendez-Requejo, 2005; Graves and Thomas, 2008). Assuming the topic of succession is one of the most critical challenges in the family business literature, this paper attempts to address the factors that act as driving forces for the successor to become a leader of international family businesses.

Keywords: family firms, succession leadership

JEL codes: M13

INTRODUCTION

Leadership succession is a significant challenge for all family businesses. Despite this many family businesses do not have clear plans nor systematic processes for implementation trans-generational change (Fang et al, 2015). Family business owners beliefs that succession is natural process and successors became leaders naturally. If that was it, then more than 30% would survive the first generation, around 15% would survive to the third generation, and more than 3% would survive to the fourth generation (Vera, Dean; 2005). Although much research has been dedicated to family business succession and preparing successors there is still no in depth research showing the path needed to cross from successor to a true leader in family firm. The idea that a family business succession can have an impact on the financial structure and performance of a firm should be no surprise given that a business transfer is one of the most important and critical events in the life cycle of any family firm. Moreover, successions will gradually gain more importance in the next coming years because of the retirement of a substantial amount of business leaders. It is therefore important to study business transfers, as doing so can lead to more insights into best practices regarding how to carry out a succession and on the way in which the business is expected to change because of the transition event. Martin and Lumpkin (2004) find that in successive generations entrepreneurial orientation tends to diminish and give way to family orientation, as stability and inheritance concerns become the business's principal drivers. Central in the succession process is that the management of the family business end up in the hands of a competent and well-motivated successor. But there is still not clear what are what does it mean for successor and family business. We know that succession process has the potential to disrupt and even to destroy successful businesses, irrespective of their financial or market power (Bozer, Levin, Santora, 2017) but in some cases a succession, particularly when an successor is involved, can lead a family business to new markets, new ways of acting and

thinking (Ibrahim et al., 2001; Menendez-Requejo, 2005; Graves, Thomas, 2008). Assuming the topic of succession is one of the most critical challenges in the family business literature, this paper attempts to address the factors that act as driving forces for the successor to become a leader of international family businesses. Thus, author is analyzing the following research questions:

- Q1:** What are the factors that facilitate or inhibit the process of becoming the leader for international family business?
- Q2:** What are the major characteristics that the successor to become the leader of international family business?

Succession planning has scope for the personal approach especially exploring people's stories and narratives and case histories. Working with individuals or small groups in a case study is the type of research needed in this area.

THEORETICAL FRAMEWORK

Author selected agency and stewardship theory as the theoretical framework. The conceptual domain of agency theory is one of the dominant organisational theory perspectives applied in current family business research (Chrisman, Kellermanns, Chan, & Liano, 2010). According to agency theory (Jensen, Meckling, 1976), agency costs generally arise due to individuals' self-interest and decision making based on rational thinking and oriented toward own preferences. With more people involved in decision-making, such as through the separation of ownership and management, agency costs occur due to different preferences and information asymmetries between the owner (principal) and the employed management (agent) (Jensen & Meckling, 1976). In other words, agents take decisions based on their individual preferences (e.g., short-term, financial gains) instead of the owners' preferences (e.g., long-term, sustainable development). For this research, the principal-principal approach was used. This constellation also raises problems determining who is responsible and has the power to control and make decisions (Morck, Yeung, 2003). In family firms, this situation can additionally be complicated by the emotional and relational attitudes of the involved family members (Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007; Schulze et al., 2003), which can eventually lead to a suboptimal economic outcome overall (Shukla et al., 2014). To delimit agency theory from other theoretical approaches, an often opposed and more collectivistic theory from the economic literature is stewardship theory (Davis, Schoorman, & Donaldson, 1997). The stewardship perspective addresses the behaviour of controlling family firm owners that behave as far seeing stewards and are guided by superior organisational goals (Sharma, 2004). Several authors discuss the applicability of agency theory in comparison to stewardship theory in family firms and argue that both theories contribute important insights to the knowledge about family firms (Chrisman, Chua, Kellermanns, & Chang, 2007; Corbetta, Salvato, 2004; Eddleston, Kellermanns, 2007; Kraus, Märk, & Peters, 2011; Le Breton-Miller, Miller, & Lester, 2011). Stewardship theory states that the agents ("stewards") behave socially, in a self-actualizing manner and with an attitude postulating psychological ownership (Pierce et al., 2001). It recognizes that many family leaders are loyal stewards of their firms, contributing to firm performance through citizenship behaviors (Drakopoulou, Dodd, Dyck, 2015). Banalieva and Eddleston

(2011) believe that kinship, a shared family name, and common history promote a shared identity that allows family leaders to build an enduring reputation and social capital that can be passed from one generation to the next. Presented case study will show that at the beginning of their career path, successors may act as an agent in family business. However, to become true leaders transformation to “stewards” is needed. Author will try to capture factors needed to this passage from agent to steward.

SUCCESSION

Succession is a key determinant of generational continuity. However, succession is not just a step of passing the baton, but instead it is a process that develops over several stages that evolve over time and, in some cases, begin even before the successor enters the business (Handler, 1994). Given the importance of continuity in the family business, the succession process has drawn the attention of researchers who have tried to identify those variables driving an effective succession. It has been predominantly studied through the lens of single organizational source, such as incumbents, successors, and nonfamily employees (Decker et al., 2017). The succession process encompasses a number of factors which are usually associated with both the predecessor and successor. Among these factors, quality, harmony of family relations, organisational culture and succession planning have been emphasized in relevant literature. After a qualitative study with 32 family businesses, Handler (1994) found that mutual respect and a common vision between the founder and successor are very important components of an effective succession. Several authors also stress the importance of personal and professional realisation of family members (Dunn, 1995). Existing research on the impact of a succession on the performance of a family firm is still inconclusive. Some authors argue, that performance is lower of next-generation family firms, others come to opposite conclusions. Moving from one generation to another, means goal change, which can result in stagnation. First generation family firms are more business oriented than are later generation firms, which are more family oriented, and firms with a business orientation have a higher capacity to grow (Cromie, Stevenson, & Monteith, 1995; Dunn, 1995; Reid et al., 1999). Similarly, Martin and Lumpkin (2004) find that in successive generations entrepreneurial orientation tends to diminish and give way to family orientation, as stability and inheritance concerns become the business's principal drivers. Davis and Harveston (1998, 1999) further show that the “generational shadow” cast by the founder is much greater than the generational shadow cast by subsequent generations. They state that the transition between the founder and the second generation can often be seen as the most difficult and turbulent one. Lately, business literature has increased its interest in the way of top managers play an essential role in shaping organizational outcomes (Carpenter, Geletkanycz, & Sanders, 2004; Hambrick & Mason, 1984; Loane, Bell, & McNaughton, 2007). According to Hambrick (2007) the best way to understand why organizations do and/or perform the things they do, it is fundamental to consider the biases and dispositions of their most powerful actors – their top executives. The base of these assumptions is on the upper echelons theory proposed by Hambrick and Mason (1984). It is based on the idea that managerial characteristics can be a useful measure to predict organizational outcomes. This theory argues that executives act on the basis of their personalized interpretations of the strategic situations they face, influenced by their cognitive base and their values. It indicates a

person's values, skills, knowledge base and information processing abilities influences the decision-making process (Hambrick, 2007). Overall, based on the above literature, the negative effect of succession on firm performance is expected to occur unless the successor is a true family business leader not only appointed manager.

Successors strongly supported the notion that early exposure to the family business had a positive effect on their commitment to adopt a leadership role (e.g. Klein et al., 2005). Internal exposure was a greater benefit for them than working outside the family business, because it facilitated idiosyncratic family-business knowledge transfer. All successors highlighted higher education as potentially beneficial to succession, especially if that education was relevant to the business (see Morris et al., 1997). Both successors and incumbents acknowledged that established protocols, formalized structures, and family culture helped nurture a successful succession (e.g. Cabrera-Suárez et al., 2001). Successors also noted the importance of an accepting, open, transparent communication structure between the incumbent and themselves. However, successor and incumbent perceptions of the value of consistent, formalized structures differed significantly. Successors viewed these characteristics as potential barriers to establishing a leadership style and culture and a hurdle for a successful succession. Additionally, unlike incumbents, who viewed nonfamily members' influence as a possible dilution of the FBS characteristics (Ensley, Pearson, 2005), successors placed importance on the influence of nonfamily employees in the succession process and viewed their contributions as making a positive impact on their succession.

THE INSTITUTIONAL CONTEXT

As this study was conducted in Poland, some specificities of this institutional context need to be pointed out. The Polish context is very interesting because with the collapse of the old regime in 1989, the outburst of entrepreneurship resulted in the creation of numerous family businesses which became the backbone of the blossoming free-market economy (Bednarz, Bieliński, Nikodemka – Wołowik, & Otukoya, 2017; Campbell, Jerzemowska, 2017). In 1989 the system changed and private business became legal which resulted in setting up private enterprises at a massive scale. It was the period when many family-owned businesses came into being. A vast majority is still operating and in good condition. Within the framework of these studies we have checked the distribution of family-owned businesses in Poland. The majority of them are the micro firms which have been operating locally for some 10-20 years, whose owner is a man, and which have no separate management board within their organizational structure. These firms operate in the wholesale and retail sector as well as in the industry ("Family Business is a brand", IBR 2017). Ownership in Poland plays a special role in business, and it can be a factor stimulating the internationalization of firms (Wach, 2017). In family businesses the family ownership plays a crucial role.

Most of Polish family businesses are still in the first generation phase, so called 'founder stage'. The first succession process is happening and there is no tradition for family business succession.

METHOD

In line with recent calls for more qualitative, explorative research on business development processes (Doern, 2009; Davidsson, Achtenhagen & Naldi, 2010), a qualitative method was chosen for this study. The data was generated through semi structured, open-ended interview with successor, CEO of medium family business (second generation). Interview lasted over 3 hours. Interview was more as a story told by the successor supplemented by answers to additional questions made by the author. Instead of undertaking the interviews, the author gathered non-participant observations and archival documents, such as: contracts, websites, protocols, strategy book, ISO handbook, CSR Report etc. The author assisted during family and business meetings (ex. in Ślesin, Poland, 2018-03-06).

RESULTS

The company: HORTIMEX PLUS Sp. z o.o. Spółka Komandytowa

Founder: Tomasz Kowalewski (Father), owns 65% of the company

Successor, current CEO: Mateusz Kowalewski, owns 35% of the company

Nowadays, Hortimex is a specialised company that is a platform for the exchange of goods, know-how, and experience between the worldwide producers of food ingredients and the Polish ones. For about 30 years they have been providing food producers in Poland with technological consultancy in the creation of new food products and the selection of the finest ingredients and the best solutions. Hortimex is a family company. That is why they rely on trustworthy business relationships, which are beneficial for every party to a deal. They help producers of food ingredients by:

- assistance in entering the Polish market,
- sales & distribution of food ingredients to food producers in the whole country,
- development & improvement of business relationships with producers.

Hortimex also help food producers by:

- consultancy in developing unique and appealing recipes for food products
- search for desirable ingredients among products offered by foreign producers
- supply of tested, natural, and appealing food ingredients to food production facilities

Hortimex's customers value them most for:

1. Effectiveness. Thanks to their experience they have been gaining for almost 30 years they know how to effectively convince food producers in Poland to try and use new ingredients.
2. Flexibility. Each of their customers can be sure that they efficiently tailor their services to individual preferences, plans, and expectations. Flexibility is their middle name.
3. Promptness. In times of intense competition it is essential to carry out a project promptly. They know that. That is why they act skilfully and timely.

Mission of the company:

„We rely on the education of the food production market and professional consultancy in it. We believe that together we will be able to improve the quality of the Polish food production market as well as to create a friendly, healthy, and cost-effective market. In fact, we are all consumers“.

„We would like to see better and better products on the shop shelves – more delicious, more aromatic, and more healthy and functional. Therefore, we help Polish companies introduce new food products to the market and worldwide producers of food ingredients present their semi-finished products to Polish producers“.

How the story begins...

“Hortimex is a family business managed by the second generation of owners. Founded in 1988 by my parents, Lucyna and Tomasz Kowalewski, for many years it was built and managed in the spirit of broadly understood responsibility. Both, me and my father who managed the company were very serious to liabilities to contractors, employees, local community and other stakeholders. The years 2009 - 2013 are the period of succession in company management. We worked it out then and we implemented the management system strategic and first structured strategy for the company, which we called "Hortimex 2015". In addition to obvious business activities it assumed continuation and strengthening values that helped in building enterprise development“.

Table 1. Scale of activities

	2014	2015	2016
Employees	30	32	30
Turnover (netto, PLN)	46 645 040,32	61 563 795,08	62 747 612,28
Capitalization from a perspective own contribution (%)	1,7	1,7	2,1
Assets	14 206 197,69	16 309 660,59	16 767 725,87
Sherholders	Tomasz J. Kowalewski, Mateusz Kowalewski, Spółka Plus	Tomasz J. Kowalewski, Mateusz Kowalewski, Spółka Plus	Tomasz J. Kowalewski, Mateusz Kowalewski, Spółka Plus
Value	1 204 898,13	2 484 487,00	2 726 732,53
Countries	Austria, Belgium, China, France, Spain, the Netherlands, India, Ireland, Canada, Lithuania, Germany, Norway, Poland, Turkey, Hungary, Great Britain, Italy	Austria, Belgium, China, France, Spain, the Netherlands, India, Ireland, Canada, Lithuania, Germany, Norway, Poland, Turkey, Hungary, Great Britain, Italy	Austria, Belgium, China, France, Spain, the Netherlands, India, Ireland, Canada, Lithuania, Germany, Norway, Poland, United States United States, Turkey, Hungary, Great Britain, Italy

Source: own study.

VALUES & HR POLICY

The Hortimex team is small and quite well integrated. The team composition is shaped primarily on the participants' compliance with the company's culture. Competences, however very important, they are not the only one, but one of the employee evaluation crite-

ria. Managers are significantly involved in the communication process and shaping attitudes. Therefore, we decided that it is not there the need to create additional structures or channels of communication, dedicated to the responsible person proceedings. Rules of conduct are shaped by Quality Policy, management areas policies and individual procedures (under the ISO 9001: 2008 system). The owners decided to open debate about values and attitudes. During several workshops in which the whole company was involved, they selected five essential values that recognized the most important. They are: responsibility, openness, respect, honesty and trust. As far as they anticipate the possibility expanding or modifying it. Reported by the team as important, it became the subject of a workshop, which took place in October 2016. As a consequence, it was formulated document "Rules of giving and receiving gifts in business relationships. *"If we want to answer what decided our position, I think that it is a mix of many factors. However, I have the certainty that it is decisive that we do a lot of things differently"*(employee statement).

"What is the key in our activities? Why is it worth working together and relations with our partners and recipients are essential for us? Is Hortimex just a company or something more? I chose nine features and values that are fundamental to us. They represent development directions and areas that we care about especially. They are an internal code of conduct. However, it is not a secret what drives us to the first element" (Mateusz about values)

Clarity

"Our actions, both for our recipients and partners (suppliers), have clearly defined rules. We run an open policy with companies that cooperate with us. It helps in building trust and free relationships. These in turn help to resolve contentious issues that may arise in a way that does not leave any of the parties with a sense of loss. We communicate the terms and conditions in a clear manner. At the time of any problems, we always strive for dialogue and solution. Transparency gives you clear rules on which we will work and is a clear point in defining our common goals".

Responsibility.

"We understand it not only in the context of social responsibility so popular for several years. Despite the implementation of the CSR strategy, the responsibility in our understanding is much more. For years, Hortimex has been providing information on nutrition as well as food additives and ingredients. It is extremely important for us that we provide data from independent organizations, not just our opinions. Our publications include guidelines of the European Food Safety Authority. We also work with universities in Poland and work for the benefit of consumers' awareness".

Punctuality.

Fast, cheap, good. "We know that it is not possible to fulfill all three obligations. In our business, we always try to fulfill our obligations well. We also define the deadline for implementation. This does not only apply to the logistics of the products supplied, but also to information, trials and joint work on recipes. For us, this is an extremely important element. By combining product design, work on prototypes, we often involve

several partners and key service providers. Specifying deadlines is a priority. Timeliness is a plan that we always design accordingly for projects and commitments”.

Thanks to the knowledge of technologists, partners and cooperation with scientific and research institutions, proposing solutions is core of Hortimex work. Hortimex attach great importance to provide information. The new proposals are always the most important element for customers. Hortimex want to show not just products or solutions, but what one can achieve and how to achieve this. Technology has been the basis of Hortimex activity for many years. *“We have now expanded our consultancy to the whole range of food production”*. Aspects related to production technology are currently only a part of Hortimex offer. A secure supply chain is their key competence. It does not apply only to the shipment and delivery of goods, but also to secure storage. The timeliness of our deliveries is high. *“We obtained this by clearly defining the procedures related to shipping and accepting the goods. The principle is one, we do not promise until we are not sure”*.

Effectiveness

The goal of all obligations and relationships with partners is to effectively implement their value propositions. Hortimex partners are producers of ingredients and food additives. On the basis of products, they propose solutions that can be of considerable value to customers. Hortimex help meet partners' goals. Provide customers in Poland with continuous access to new solutions.

Flexibility

Hortimex offer addressed to partners and recipients is flexible. Hortimex operates in a certain framework, therefore the offer has border points. However, we do not have a template according to which. Each of the 18 partners requires a slightly different approach.

Speed

The implementations must be characterized by appropriate dynamics. Hortimex establish cooperation with new partners at a specific time. This requires proper concentration and intensification of activities. For recipients, this means that the proposals Hortimex present will be implemented in the short term.

“Nine features and values define a certain framework. Is this a description of Hortimex? No, it's just part of what our company is. It is impossible to describe the emotions and satisfaction that appear in our work.” (Successors statement).

CLIENTS

The two most important stakeholder groups Hortimex are ingredients producers usually located outside Poland, and food producers located in Poland. For producers of food ingredients Hortimex is a channel to reach clients in Poland. Companies that decide for exclusive, long-term cooperation they can count on focus on their business goals, professional service and most importantly - full service transparency. It gives you a sense of control on the processes of product implementation on Polish market. Regular reporting, joint visits at the clients, current information exchange and understanding cultural differences between

Poland and partner's country of origin build long-term relationships and contribute for business development. *"We are loyally fulfilling your duties, expecting in return the same".*

WHAT CUSTOMERS SAY ABOUT HORTIMEX?

Jacques Maman, Marketing Manager, Tan Nisasta

"From the beginning of the relationship we are experiencing a perfect business experience cooperation at all its levels. We meet at the company's headquarters in Konin, and we also visit clients throughout Poland with the Hortimex team. The sales results are huge, we have increased our market share in Poland more than 60%. When we opened ours another factory, Omnia Nisasta, we decided that Hortimex will also be distributed the products of this company".

SUCCESSOR

Mateusz's journey in family business started in 1994 when he stopped his studies because he realized that the one he had chosen where not suitable for him. His father, Tomasz, said that if he did not want to learn he must start to work. Mateusz did not know what he want to do in his life so the family business was a kind of natural choice, just for the beginning of his professional life. He started with simple things. Because Mateusz was the only one who spoke English, he started to use "yellow pages" to gain new contacts and potential clients.

" That time it was easy...I just put our contact details on web site and in few days someone always contacted us. Now the competition is much bigger" Mateusz says.

In 1996, Mateusz started to work as sales representative. In 90's, there was a big demand for Hortimex's products (mainly food additives) Mateusz results were very impressive. In 2001, his father, appointed him to be a Sales Director. He realized that sales and purchasing departments were completely unorganized and not integrated, he started to introduce changes to optimize work of this two departments. He created so called "product teams" where two employees, one from sales and other from purchasing, started to work together. He though that he was responsible for some aspects of family business but in fact his father still decided about everything. To gain some power and respect Mateusz started to behave like his father: *"...I was autocratic and I had impersonal approach..."*. Between 2006 and 2009, Mateusz did well, but from the time perspective, he said that he was more like an administrator of the company than a manager. Year 2009 was very difficult for the family, because Mateusz's mother died. His father got ill. He was forced to take the position of CEO of the company. Mateusz realized that *"...I had no vision what to do next..."*. Hortimex was in stable position but the problem was that from few years they had no new clients, no new suppliers or partners and the turnover was not improving. Mateusz felt that to grow the company need to change. He started to look for the inspiration. He started to read business books, attend business meetings etc. After years he admitted that he really regret that he stopped studies: *" I felt as I opened the open door...It was frustrating..."*. On one of business meetings, as an exercise, he was asked to write a letter for himself from the future. He left the meeting with empty page... From

one side it was disaster but from the other: “...It was like a discovery...” Mateusz said. Few days later he sat in his office in front of this white page and he thought that maybe he will ask the employees to do the same but according to Hortimex? This was the beginning of his big mental change from autocratic manager to transformational leader. In 2011 he asked external business advisors for help in formulating business strategy. Those advisors asked “uncomfortable” questions that forced Mateusz and his team to change the way they think about Hortimex. In few months they created “Hortimex 2015 Strategy”. Mateusz calls it: “a vision for a succession time...”. They transformed business from a wholesaler of food additives to the platform of exchange the knowledge between suppliers of additives and food producers. Meanwhile there was a conflict between Mateusz’s father and his wife. Firstly Mateusz tried to be as a mediator. But the conflict has intensified. Mateusz decided to quit family business. It was the first time in his life that he defied his father. But with help of the external mediator they they have resolved the conflict. Going back to business, in years 2010-2018, Hortimex, doubled its partners. In 2012 they introduced several corporate governance mechanism and tools, that Mateusz’s father could withdraw from the business without feeling lost. Mateusz is proud of what happened, but he is most happy that employees are satisfied and motivated.

PRACTICAL IMPLICATIONS

With the study, author aim to contribute to a better understanding of factors connected with successor’s passage from manager to leader in international family business. This endeavor has practical relevance, as many family businesses never embark succession process, and one possible reason is that many family firms do not manage to overcome the challenges of succession. Some practical implications can be derived from the results. Firstly, the successors need to feel responsibility for the family. Secondly, he/she should has the deciding power in some part of the business. As case study shows, conflicts and interactions between family members, when well managed, might be source of new ideas and solutions. Next to qualifications and constant learning and improving skills, there is also a need for being open minded and ready to change.

CONCLUSION

The aim of the study was to analyze the factors that act as driving forces for the successor to become a leader of international family businesses. Basis on Mateusz example the following characteristics are considered important for successor: integrity, commitment to the family and family business, ability to command the respect of the personnel, decisiveness and interpersonal skills and of course some luck. Firstly, there are the leadership qualities, which every manager must have, whereby it is important that the successor be a *visionary* entrepreneur. Secondly come management skills. However, even more is expected from the future leaders of family businesses. Thirdly, they must demonstrate commitment and respect for the family. Just as important as the competence is the *motivation* of the successor. Successions work out a great deal better when the candidate-successor has a strong desire to lead the family business and also finds this a fascinating challenge. Moreover, the successor must have had the freedom to *choose* to

join the family business. Once officially designated as successor, the representative of the next generation is confronted with a new challenge. He must prove himself as the new leader. This does not always go smoothly, because the successor generally finds himself in the phase of succession where he shares the management of the family business with the incumbent leader. The great challenge for the successor is to strike a proper balance between continuity of the management on the one hand and innovation/change on the other. Such change obviously entails a risk of conflicts with the incumbent leader. Some people believe that crises are unavoidable. Yet only a minority of successors achieve credibility by resolutely innovating. Frequently it is more successful not to make all-too sudden changes, but to introduce innovations around an axis of continuity. In this way, the family network - which is based on trust - remains intact, and the successor will also run into less resistance from the incumbent leader. Mateusz admitted that in his path to leadership, above mentioned, there were some important things. Firstly he always felt responsible for the family, especially his wife and children. Secondly, unfortunately but this is true, his mother death was very important to understand this responsibility. Thirdly, when he acted against his father, choosing his wife. This gave him a lot of self-confidence and feeling that he is able to manage things on his own. Mateusz also thinks that this was also a signal for his father to see a leader in him. Last but not least, the openness for external help and support.

LIMITATIONS

A limitation of this study could be seen in its single-country focus on Poland. Also, one could argue that the single-case is a limitation of this study. While this leads to a lack of generalizability of findings in statistical sense, the qualitative approach chosen allowed to explore in depth the transition from being manager to leader. The research highlights the important role of family and business dynamics in this transition from „agent“ to „steward“. Yet, further research is needed to test the findings for larger samples, possibly in relation to different contingency factors.

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Specific trade concerns regarding the application of sanitary and phytosanitary measures by WTO countries – the European Union’s perspective

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Abstract

The main aim of this paper is to examine and discuss major trade concerns over the application of sanitary and phytosanitary measures (SPS) by WTO member countries, with the particular emphasis on the European Union’s SPS issues. While SPS measures are the key elements in the system of protection of life and health of people, animals and plants, numerous specific trade concerns (STCs) formally raised to the WTO, show that these measures are often considered to be overly restrictive and inconsistent with the provisions of the SPS Agreement. The analysis, based on the data retrieved from the SPS Information Management System of the WTO, revealed that both developed and developing countries play a significant role notifying specific trade concerns, with developing country notifications increasing faster. The European Union is active both as a party raising the SPS issues and maintaining the measures questioned by trade partners. The conducted analysis of specific trade concerns, helps to identify measures related to the EU’s trade in agri-food products, which very likely constitute a tool of trade protectionism. Thus, the results have practical implications for governments and the EU’s decision making bodies that can undertake actions to remove unjustified barriers as well as for the companies that need to take into account the existing SPS requirements in their foreign markets entry strategies.

Keywords: specific trade concerns; sanitary and phytosanitary measures; WTO; European Union; international trade; agri-food products

JEL codes: F13

INTRODUCTION

With the globalization of food industry, resulting in longer food supply chains and increasing international trade in agri-food products, ensuring food safety and health protection have become one of the most challenging tasks for governments. Countries set their own laws, regulations, requirements, and procedures to protect plant, animal or human health from disease or other affliction, to a high extend related to international trade. These so called sanitary and phytosanitary measures (SPS) are routinely applied to the domestic and imported goods with the aim to ensure that food is safe for consumers, and to prevent the spread of pests or diseases among animals and plants.

However, some governments may impose strict SPS measures that are addressed by trade partners for being unjustified and creating disguised protectionist barriers to trade, applied with the main aim to shield domestic producers from economic competition. Since tariffs and quotas have been reduced in the process of multilateral trade liberalization within the World Trade Organization (WTO) and due to numerous regional and bilateral trade agreements, non-tariff measures such as SPS measures, which offer an alternative to classical protection instruments, are on rise. In the most controversial cases using such measures may lead to trade disputes between the WTO members, while in most of the cases countries which have doubts about the necessity and scientific grounds of the application of SPS measures by trade partners, first raise so called specific trade concerns (STCs) to the SPS Committee of the WTO [Grant and Arita, 2017, p. 46].

The purpose of this paper is to examine and discuss major trade concerns over the application of sanitary and phytosanitary measures by WTO member countries, with the particular focus on the European Union's SPS issues. It analyses the number, type and composition of specific trade concerns raised to the WTO SPS Committee and describes examples of specific trade issues, including both those in which the European Union acts as a member raising the issue, as well as those in which it is a member maintaining the measure at question. The research methods used in the article included a review of literature, studying of the legal acts as well as the analysis of statistical data retrieved from the SPS Information Management System of the WTO.

Limitations of the research are mainly connected with the complexity of the problem and in some of the cases the difficulties with gathering complete empirical material about SPS actions. Since the SPS policies are at the intersection between international relations and international business, the further area of the research could be the study of trade losses costed by imposing SPS as well as strategic and operational implications of the existence of the strict SPS requirements for exporting companies.

SANITARY AND PHYTOSANITARY MEASURES AS TRADE POLICY INSTRUMENTS

While tariffs have been progressively reduced over the years, as a result of trade liberalization, the importance of non-tariff measures, such as sanitary and phytosanitary

measures, in countries trading internationally has significantly increased. Non-tariff measures can be defined as policy measures other than ordinary customs tariffs that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both [UNCTAD 2018]. Compared to tariffs, these measures are less transparent and often have negative effects on trade. Due to technical complexity, they can create a particularly deceptive and difficult market access barrier to challenge. Nevertheless, government laws or practices, such as sanitary and phytosanitary standards, may be justified as they help to achieve countries' public policy objectives. WTO rules strive to reduce as far as possible the use of measures that unnecessarily impede market access, while not undermining the sovereign right of any government to provide the level of health protection it deems appropriate.

Deardorff and Stern [1997], Bora et al. [2002, pp.2-3], UNCTAD [2018] and others propose classifications of non-tariff measures. According to Bora et al. [2002, pp.2-3], NTMs may be broadly classified according to the intent or immediate impact of the measures into five categories: measures to control the volume of imports; measures to control the price of imported goods; monitoring measures including price and volume investigations and surveillance; production and export measures; technical barriers imposed at the border. In this approach, STS measures are included to the group of technical barriers, imposed at the frontier which are used to ensure that imported products conform to the same standards as those required by law for domestically produced goods. They may lead to the prohibition of non-complying imports or necessitate cost-increasing production improvements.

The UNCTAD classification of NTM measures comprises 12 types of NTB measures which belong to 3 broader groups: technical measures, non-technical measures and export-related measures. Sanitary and phytosanitary measures belong to the group of technical measures, together with the technical barriers to trade and pre-shipment inspection and other formalities. UNCTAD defines SPS measures as measures that are applied to protect human or animal life from risks arising from additives, contaminants, toxins or disease-causing organisms in their food; to protect human life from plant- or animal-carried diseases; to protect animal or plant life from pests, diseases, or disease-causing organisms; to prevent or limit other damage to a country from the entry, establishment or spread of pests; and to protect biodiversity. SPS measures are grouped in the UNCTAD classification into 8 broader categories and over 30 subcategories. The main categories include: prohibitions/restrictions of imports for SPS reasons; tolerance limits for residues and restricted use of substances; labelling, marking and packaging requirements; hygienic requirements; treatment for elimination of plant and animal pests and disease-causing organisms in the final product; other requirements on production or post-production processes; conformity assessment; SPS measures not elsewhere specified [UNCTAD 2018].

As the use of NTMs is on rise, interest in the extent to which existing non-tariff barriers may effect international trade is also growing. Research on this subject was carried out by a number of authors [Kee, Nicita and Olarreaga 2009, pp.172-199, Hoeckman and Nikita 2011, pp. 2069-2079, Fontagné et al. 2013, pp.2-4]. The results of these studies show that non-tariff measures distort and restrict international trade, and in some countries they have an even larger share in the overall restrictiveness index than tariff barriers.

The firm level study by Fontagné et al. [2013, pp.2-4], which addresses the trade effect of restrictive product standards on the margins of trade, shows that SPS concerns have a negative impact on both the extensive and intensive margins of trade, as SPS represents a further fixed or variable cost to entry the foreign markets. Moreover, according to the results of their studies, SPS measures that have triggered the exporting country to raise a concern to the WTO, reduce the probability to export by 2.2%. Authors also observe a differentiated effect of SPS concerns across heterogeneous firms: the negative impact of SPS is higher for smaller and reduced for big players with diversified sector-market portfolios, which have better ability to cope with additional costs, and which can move resources from unaffected to SPS imposing sectors and markets, when it is needed.

However, results of some empirical studies suggest that the impact of SPS measures on agri-food trade may be diverse and need not always be negative. Crivelli and Groeschl [2012, pp. 444–473] found that aggregate SPS measures pose a negative effect on the probability to export to a protected market, but, conditional on market entry, trade flows to markets with SPS standards in place tend to be higher. It is due to the fact, that on one hand, SPS measures pose a serious barrier to market entry by increasing the fixed costs of trading, but on the other hand, SPS standards provide information on product safety to consumers and thus exert a positive impact on the trade flows of those exporters that manage to overcome the fixed cost of entering the market.

INTERNATIONAL REGULATIONS ON SANITARY AND PHYTOSANITARY MEASURES

Sanitary and phytosanitary measures are addressed in various trade agreements and are regularly notified to and debated within the WTO. The Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS Agreement), adopted as part of the Final Act of the Uruguay Round of Multinational Trade Negotiations in the year 1994, is the main multinational agreement dealing with the SPS issues. It applies to all sanitary and phytosanitary measures which may, directly or indirectly, affect international trade [WTO 2018a].

The SPS Agreement recognizes (in Article 2) that governments have the right to adopt regulations to protect human, animal, or plant life or health and to establish the level of sanitary or phytosanitary protection they determine to be appropriate. It implies that countries may use widely divergent standards and standards-based measures to protect their consumers, and preserve natural resources.

However, the SPS Agreement establishes a number of general requirements and procedures to ensure that governments adopt and apply SPS measures to protect against real risks rather than to protect local products from import competition. The SPS Agreement in an attempt to make it easier to distinguish between legitimate regulations and those which appear to be non-tariff barriers to trade protecting producer interests, states that members shall ensure that any sanitary or phytosanitary measure:

- is applied only to the extent necessary to protect human, animal or plant life or health,
- is based on scientific principles,
- is not maintained without sufficient scientific evidence,
- do not arbitrarily or unjustifiably discriminate between members where identical or similar conditions prevail,

- shall not be applied in a manner which would constitute a disguised restriction on international trade.

The Agreement, without requiring member states to change the level of protection they see appropriate, encourages harmonization of SPS measures among WTO member countries, on the basis of international standards and guidelines, such as for instance the Codex Alimentarius or recommendations of the International Office of Epizootics (OIE) [WTO 2018b].

In cases where relevant scientific evidence is insufficient, member countries may provisionally adopt sanitary or phytosanitary measures to avoid risk, but they shall seek to obtain the additional information necessary for a more objective assessment of risk and review the sanitary or phytosanitary measure accordingly within a reasonable period of time [WTO 2018b]. The latter regulation was a base for adopting and applying the European Union's precautionary principle, which is the main element of the EU's regulatory system in the area of food safety and health and environment protection causing controversies among its trade partners.

Although it shall not be invoked as a pretext for protectionist measures, the application of the precautionary principle by the EU has many critics, arguing that that the precautionary principle has been used in an arbitrary and unreasonable manner, tending to focus on worst cases, rather than rational analysis of risks and benefits, and as a result, preventing beneficial developments and stifling innovation [Marchant and Mossman 2004, pp. 4-44, Sandin 1999, pp. 889-907]. Proponents claim that that the protection of the environment and human health is an overriding priority, and that the costs of the consequences of a lack of precaution may also be large [Ahteensuu 2007, pp. 366-38, Todt and Luján 2014, pp. 2163-2173].

TRENDS IN SPS AND STCS NOTIFICATIONS

Under the SPS Agreement, WTO members are obliged to provide a prior notice of intention to introduce new or modified SPS measures, or to notify immediately when emergency measures are imposed. The main objective of complying with the SPS notification obligations is to ensure transparency through informing other members about new or changed regulations that may significantly affect market access. It can also enhance clarity and predictability of international trade as it reduces trade disruptions and costs. As a result it gives businesses a clearer picture of future opportunities and encourages foreign direct investment [WTO 2018c].

In the period 1 January 1995 to 02 January 2018 the total number of notifications of SPS measures was 22352, out of which: 14935 were regular measures; 2019 – emergency measures; 4,976 – Addenda; 401 – Corrigenda; 19 - Translation supplement and 2 - Recognition of equivalence. As it is shown on the Figure 1, the total number of notifications have been growing between 1995 and 2017 with the highest level of notifications submitted per year in 2015. Most of notifications are regular ones, which means that measures are to be notified well before the entry into force of the relevant measure, at an early stage when amendments can still be made before an SPS regulation is finalized. The routine procedure can be eliminated in cases of emergency, which the SPS Agreement defines as cases "where urgent problems of health protection arise or

threaten to arise" for the WTO Member implementing the measure. This refers to the so called emergency notifications.

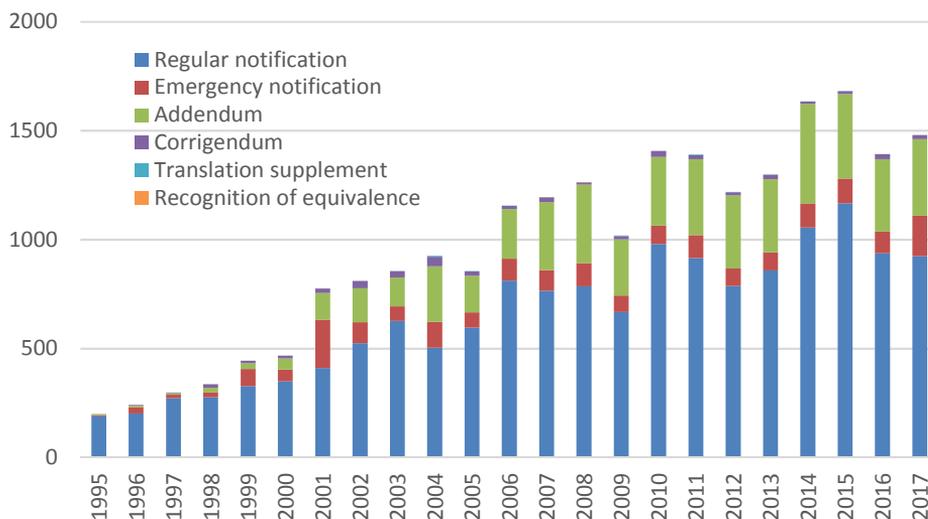


Figure 1. The number of SPS notifications submitted per year

Source: own elaboration based on [WTO 2018c].

In addition to regular or emergency notifications, countries can provide additional information to the original notifications in the form of: changes or updates (Addendum); correction of an error (Corrigendum); availability of translation (Translation supplement) or a notification about a determination of the recognition of equivalence of sanitary or phytosanitary measures of another member or members (Recognition of equivalence). The increased number of notifications does not automatically imply greater use of protectionist measures, but rather enhanced transparency and awareness regarding food safety and growing international trade. Many or most of SPS are considered to be legitimate health-protection measures.

Sometimes, however, SPS measures notified by a country are being questioned by its trading partners, especially when they may cause serious problems for exporters. In such cases a WTO member can raise an issue as a specific trade concern at SPS Committee meetings, which can be an important way of gathering support and solving a problem. STCs are not formal disputes at the WTO forum and they also not always lead to formal disputes. But STCs very often reflect divergences of views between countries regarding the regulatory approach towards risk management. By raising STCs, members often are not only requesting information or clarification; they also send a strong signal that they already have reasons to believe that the SPS measure is inconsistent with the SPS Agreement [Horn, Mavroidis and Wijkström 2013].

Altogether, 427 specific trade concerns were raised in the years 1995-2017.

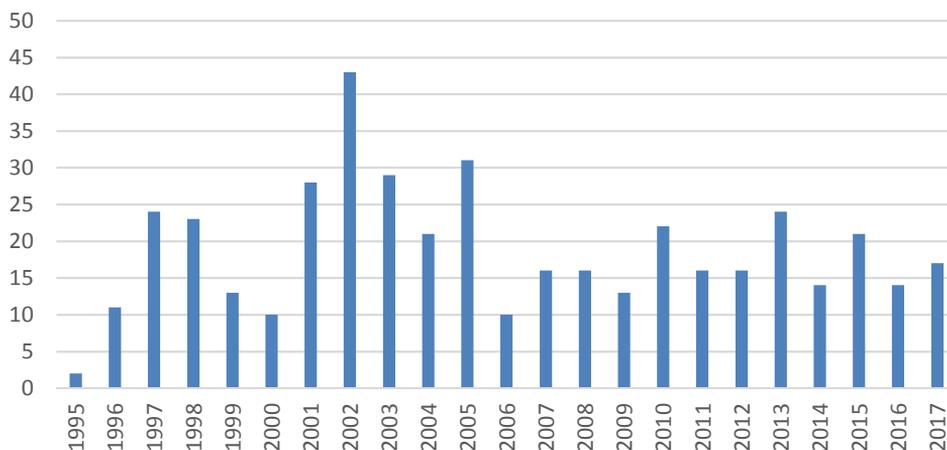


Figure 2. The number of new specific trade concerns (STCs) raised per year

Source: own elaboration based on [WTO 2018c].

During the first half of the analysis period, developed countries were more active members in this field, raising the most of the SPS concerns. Between 1995 and 2007 developed states raised 183 STCs while developing countries (including CIS) - 123 STCs and LDCs only 3. Since 2008 the situation has changed as more STCs have been raised by developing countries. In the years 2008-2017, developed economies raised 59 specific trade concerns, developing countries - 128 and LDCs - 4. In total, in the analysis periods, developed countries raised 242 STCs, developing countries - 257 and LDCs - 7, which shows that the developing countries became active participants of the WTO system. They are also a group of countries maintaining the most of SPS measures questioned by trade partners, who submit their trade concerns over these issues.

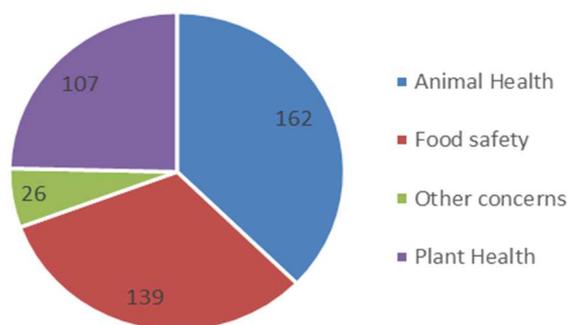


Figure 3. Specific trade concerns (STCs) by subject

Source: own elaboration based on [WTO 2018c].

Out of three major areas of SPS concerns which can be identified, animal health concerns have the biggest share in total concerns, but food safety and plant health are also significant subjects of concerns.

THE EXAMPLES OF SPECIFIC TRADE CONCERNS RAISED AGAINST/BY THE EUROPEAN UNION

The European Union is active both as a party maintaining measures complained against, as well as a party rising specific trade concerns. Between January 1995 and January 2018 in total 86 STCs were raised against the measures maintained by European Union. Out of all the issues raised against the EU, the majority (60 concerns) were expressed by developing countries. Only 26 issues were raised by developed countries, i.e. the US, Australia and Canada. European Union addressed 87 STCs against measures maintained by its trading partners. More than half (46) of the EU's concerns were raised against the developing countries, the rest against developed countries or unspecified group members. Additionally, in 43 cases, the EU acted as a party supporting STC.

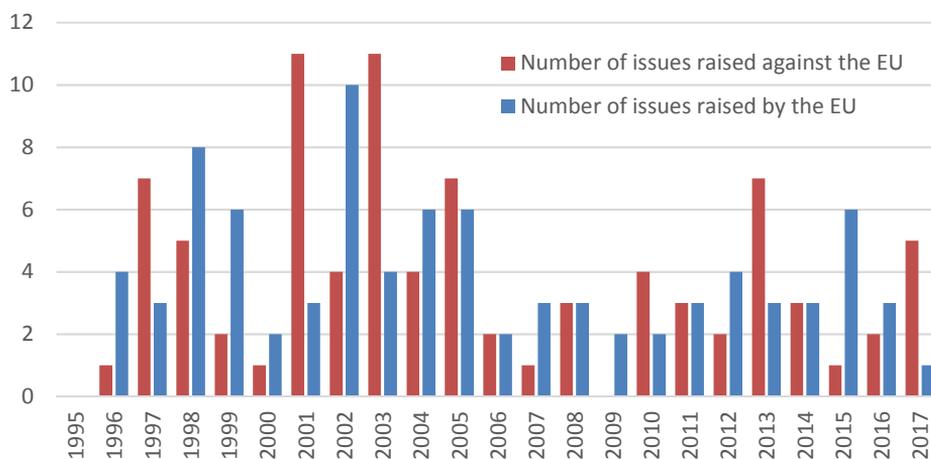


Figure 4. STCs raised by/against the European Union

Source: own elaboration based on [WTO 2018c].

Most of the members raising concerns against SPS measures maintained by the European Union are big exporters of agricultural products to the EU market and often view that strict European regulations are fundamentally driven by protectionist, rather than health concerns and are aimed at restricting highly competitive imports from third countries to the benefit of producers in the EU. The examples of trade concerns against SPS measures maintained by the European Union in recent years include among others [WTO 2018]:

- EU ban on mangoes and certain vegetables from India (member raising the concern – India; the first date raised: 9.07.2014);
- EU withdrawal of equivalence for processed organic products (member raising the concern – India; the first date raised: 9.07.2014);
- European Union revised proposal for categorization of compounds as endocrine disruptors (members raising the concern – Argentina; China; United States of America; the first date raised: 25.03.2014);

- EU proposal to amend Regulation (EC) No. 1829/2003 to allow EU member States to restrict or prohibit the use of genetically modified food and feed (members raising the concern – Argentina; Paraguay; United States of America; the first date raised: 15.07.2015);
- EU MRLs for bitertanol, tebufenpyrad and chlormequat (member raising the concern – India; the first date raised: 27.10.2016).

The above mentioned concerns refer to many different types of SPS measures applied (or intended to be introduced in future) by the European Union, such as import prohibition, tolerance limits, conformity assessment etc. In most of the cases the countries which raise concerns towards the EU represent developing countries, which have difficulties with meeting high European sanitary standards. For instance, India expressed concern regarding proposed amendments to Regulation (EC) No. 396/2005 to change maximum residue levels (MRLs) for bitertanol, tebufenpyrad and chlormequat in certain products, India stated that the lowering of MRLs would seriously impact Indian grape exports to the European Union, which accounted for almost 25% of the country's total grape exports [WTO 2017]. India further argued that international standard organizations (i.e., Codex Alimentarius) had not recommended such a low level of MRLs. In general, questioned the rationale behind the EU's decisions to lower the MRLs and requested the European Union to provide relevant scientific justification for these EU's actions.

However, trade concerns against the measures maintained by the EU are also submitted by developed countries, such as the in the case of the EU proposal to amend Regulation (EC) No. 1829/2003 which would allow EU member States to restrict or prohibit the use of genetically modified food and feed already approved at EU level [WTO 2017]. This concern is a part of a long dispute between the European Union and the US over the use of biotechnology in food production, which revealed fundamentally different approaches of both sides towards risk management. The precautionary principle was and still is a central point of the EU's regulatory approach towards GMO which results e.g. in small number of approvals of biotech products and in a zero-tolerance policy for the presence of GMOs not yet approved in the EU on its territory, while the US accept the use of GMO on a wider basis. The United States claimed that the amendment would allow EU member states to restrict or ban the use of such products with no justified reasons, on arbitrary ground and in a discriminatory manner.

At the same time the UE has raised several trade concerns addressing SPS policies of other countries, questioning them for being inconsistent with the provisions of the SPS Agreement. The examples of trade concerns expressed by the EU include among others [WTO 2018c]:

- Russia's restrictions on imports of fruits and vegetables from Poland (the first date raised: 15.10.2014);
- Korea's import restrictions due to African swine fever (the first date raised: 15.07.2015);
- India's amended standards for food additives (the first date raised: 15.10.2014);
- China's import restrictions due to Highly Pathogenic Avian Influenza (the first date raised: 16.03.2016).

Among concerns raised recently by the European Union, the countries addressed are mainly big agricultural importers from Asia and Russia. In relations with these countries

the EU strongly promotes regionalization, which is a concept where an area of a country is recognized as pest or disease-free or with low pest or disease prevalence. Trade from such areas is allowed even if the health status in the rest of the country is not favorable. According to the WTO SPS Agreement governments should also recognize disease-free areas which may not correspond to political boundaries, and appropriately adapt their requirements to products from these areas. Unfortunately, many countries do not recognize pest- or disease-free areas or their regulations regarding regionalization are very unclear. The example of such a policy are China's import restrictions on Highly Pathogenic Avian Influenza (HPAI). After the outbreak of HPAI in Europe, China continued to maintain its country-wide ban despite the European Union's regionalization efforts. The European Union considered China's policy as overly trade restrictive and not recognizing the concept of pest- or disease-free areas, as the OIE international standard stated that the measure could be lifted after the application of a stamping out measures. This stamping out policy was strictly implemented in the European Union whenever an outbreak occurred. Raising a specific trade concern on the 16th of March 2016, the European Union requested China to clarify its scientific basis for the country-wide bans and its procedures to recognize regionalization [WTO 2017]. The continuation of embargo had a negative impact on the EU's market shares in Asia, which shows that SPS measures can create serious market access barriers. In recent years, the European Union has also considered several measures imposed by Russia on agri-food imports as being discriminative, disproportionate and more trade restrictive than necessary.

CONCLUSIONS

The sanitary and phytosanitary standards are one of the key elements in the system of protection of life and health of people, animals and plants. However, the numerous specific trade concerns raised over the application of certain SPS measures show that WTO members believe that in many cases obligations under the SPS agreement have not been met and measures at question are applied as a tool of trade protectionism rather than with the aim to protect the health of consumers. The analysis showed that both developed and developing countries play a significant role notifying specific trade concerns, with developing country notifications being on the rise.

The European Union is active both as a party maintaining measures of concern to other countries, as well as a party rising specific trade concerns. Most of concerns against the EU's SPS measures are expressed by developing countries, this group of countries has also biggest share in the concerns raised by the European Union.

The conducted analysis on specific trade concerns helps to identify measures related to the EU's trade in agri-food products, which likely constitute a tool of trade protectionism and distinguish them from justified measures. Thus, the results have practical implications both for governments that can undertake actions to remove unjustified barriers as well as for the companies that need to take into account the existing SPS requirements in their foreign markets entry strategies.

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Evaluation of selected determinants of innovation potential at NUTS 2 level in V4 countries

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Abstract

The main aim of our paper is to assess the innovation potential of NUTS 2 regions in Slovakia and compare them with other regions in V4 countries. We synthesize the existing theoretical and methodological knowledge on this issue. Pointing to some empirical research in this field and using this knowledge to apply the existing measurement methodology of regional innovation potential, while complementing it with our own method on example of V4 region. In the analytical part of contribution we apply selected indicators of regional innovation potential to measure it in V4 countries' NUTS II regions, to compare and sort NUTS II regions in V4 countries due this potential. In the theoretical part of our contribution we systematize the findings of measuring regional innovation potential and its specificities. In the analytical part we work with data of selected European regions Then we use the factor analysis method to extract one factor of the regional innovation potential. The second approach used in the analytical part is ranking of regions on the basis of own built innovation potential index. There exist a broad range of quantitative and qualitative methods to evaluate the innovative potential of regions. We used selected quantitative indicators. In current regional theories higher importance is put to better understanding of functioning of the innovative process at the regional level. That group of innovations de-

terminants are the result of the networking and relations between actors. Synthesis and critical assessment of existing approaches to measuring the innovation potential at the regional level. Application of selected measurement methods on a practical example. Usage of own approach – creation and application of own index of innovation potential at NUTS 2 level in the V4 countries.

Keywords: Innovation potential; regions NUTS 2; Visegrad countries; ranking; determinants; factors; innovation

JEL codes: R11, O30, I23

INTRODUCTION

Innovation are becoming still more important and gaining more attention in the light of the effort to increase economic growth and competitiveness. Innovation is one of the driving forces of increasing labour productivity in the business and public sector. Innovation potential of the region could therefore be crucial for its future economic development. Regions with high innovation performance achieved higher economic growth, greater international competitiveness and ultimately a superior standard of living of the regions (Acs et al., 2013). Innovation potential into certain extent determines intensity of innovation performance as well as its impact on regional economy.

With the paper we aim to contribute to the knowledge with the measuring of the innovation potential at the regional level (NUTS II). We synthesize the existing theoretical and methodological knowledge on this issue, pointing to some empirical research in this field and using the knowledge to apply it in developing own method of measurement. We applied this approach on regional data from Visegrad countries. Moreover, our intention is to highlight the specifics of measuring innovation potential at regional level compared to the national level. In the analytical part we apply selected indicators of regional innovation potential in V4 countries' NUTS II regions. We also compare and sort NUTS II regions in V4 countries based on the level of innovation potential.

We assess the innovation potential of NUTS 2 regions in Slovakia and compare them with other regions in V4 countries. We use the factor analysis to reduce dimensions and determine one critical factor estimating regional innovation potential. The second approach used in the analysis comprise developing own innovation potential index based on selected indicators.

In the next section of paper we describe our methodology and data in more detail. Theoretical background and results of previous studies are introduced in literature review section. Further we shown the most important results of our analysis and discuss them shortly. In the conclusion section we summarise results and make some implications.

MATERIAL AND METHODS

As stated before, the main aim of our paper is to assess the innovation potential of NUTS 2 regions in Slovakia and compare them with other regions in V4 countries (Czech Republic, Hungary and Poland). In order to fulfil this aim we decided use two different approaches. Both of them are based on the same dataset. Based on theoretical assumptions as well as data availability we choose set of eight variables that could be crucial for innovation poten-

tial of the region. All variables used in the analysis are described in more detail in Table 1. We selected internet access and accessibility to motorways as proxies for quality of infrastructure in the region. R&D expenditure and scientific publications are both capturing the research and development environment in the region. Human capital has been proxied by the share of inhabitants with tertiary education. We also take into account the quality of regional institutions and situation at the labour market. We believe that all these variables are important pieces of the puzzle with respect to innovation potential. Despite the fact that there are of course several other potential factors, we can say that regions with better infrastructure, more R&D activities, better educated people, better institutions and lower unemployment could be seen as those with higher innovation potential. In the first stage we used factor analysis in order to create one single variable that includes the major part of variability from each of eight mentioned variables. When using factor analysis we pre-selected the number of factors gained by analysis to one. This allows us to have only one variable and make easier comparison of regions based on comprehensive indicator, which capture the overall innovation potential of each NUTS 2 region.. Based on this indicator we further compared all NBUTS 2 regions in V4 countries.

Table 1. List of indicators/variables used in the analysis

Dimension of innovation potential	Indicator (proxy)	Description of the indicator	Source
<i>Infrastructure</i>	Internet access	Share of households in the region that have access to the Internet (%)	Eurostat Regional Information Society Statistics
	Access to motorways	Index of motorway accessibility for the population of the region (EU average = 100)	European commission based on Spiekermann & Wegener (2016)
<i>Research and development</i>	Total R&D expenditure	Total intramural expenditure on research and development in the region (% of GDP)	Eurostat database
	Scientific publications	Number of scientific publications registered in the Scopus database per million inhabitants of the region	ScienceMetrix (Scopus)
<i>Human capital</i>	Higher education	Share of population with university education (% of active population)	Eurostat (htec_kia_emp and htec_kia_emp2)
<i>Institutions</i>	Quality of regional public services	European Quality of Institutions Index - Indicator of public service quality. It is calculated on the basis of the regional government quality sub-index and national quality indicators of public administration.	European Commission - European Quality of Institutions Index
<i>Labour market</i>	Share of employees in services	Share of employees in services (% of all employed population of the region)	Eurostat database
	Total employment (except agriculture)	Employment rate of the population aged 15-65 in the NUTS 2 region (except agriculture)	Eurostat database

Source: own study.

Secondly, we also used different approach how to get one comparable indicator capturing all selected dimensions. This time we construct sub-indexes for each of eight variables. Each variable was first normalized by z-score and subsequently transformed into an index. The base value of the sub-indices is equal to 100, which is the median value of the variable calculated from all NUTS 2 regions in the EU. Subsequently, according to base value we also calculated the individual sub-indices for each region. Finally, we used non-weighted arithmetic average of sub-indexes, which represents one comprehensive index capturing the innovation potential of the region.

With respect to the main aim and theoretical assumptions we develop three main research hypotheses as follows:

- H1:** The innovation potential of metropolitan regions containing capital city is the highest from all regions in every Visegrad countries.
- H2:** Regions of Czech Republic are leading ones from Visegrad countries with respect to innovation potential.
- H3:** Ranking of regions based on selected two approaches are highly positively correlated together.

Due to agglomeration forces and accumulation of human capital as well as better potential in infrastructure there is a reason to believe that metropolitan regions with capital cities have higher innovation potential. Moreover, we assume that Czech regions could be in general better. This is due to better rating of innovation performance at national level. Finally, we assume that both types of methodologies used in the analysis should give similar results due to the same variables and data used in both cases.

LITERATURE REVIEW AND THEORY DEVELOPMENT

Rapid technological development brings about a change in the organization of economic activities, resulting in disintegration of production and localization of production. As a result of these changes, it is no longer possible to talk about a competitive advantage by reducing costs, but above all, the competitive advantage is manifested by the ability to innovate, bring new ideas and implement them. This ability is basis of the economic and innovative potential of cities and regions. We understand the innovation potential of the regions in accordance with the definition of Pokorný et al. (2008) as "the capacity of the region to use its own internal resources efficiently, flexibly respond to external development stimuli, create and develop activities with higher added value, and thereby obtain new, hierarchical higher quality".

The basis of the development and innovation potential is knowledge and knowledge, yet in the practice of Slovak regions still play a significant role - often exclusive - the traditional economic factors of regional development: capital investments, industrial zones, investment incentives, transport position, infrastructure, the position of municipalities in the settlement system.

Among other things, it is also necessary to talk about the multi-factor-conditional innovation and development potential of the regions. It is also possible to speak of the endogenous potential, where the resulting co-ordination of the above factors depends also on the inner environment of the region, conditioned, among other things, by the effective interaction of the region, the atmosphere, the ethics of work, self-confidence

and mutual trust. The authors of this methodological guide further distinguish the methodological specifications for different geographic ranging levels in terms of methodology and spectrum of innovation indicators.

The concept of innovation often associates innovation - enterprise innovation, innovation in the private sector. Innovation, however, is not only a domain of private or public academic institutions (university start-ups), with governments (national, regional or local) not only acting as intermediary and facilitator of innovative initiatives, providing technical, financial and other support, or an administratively favorable environment for innovation, but public governments and institutions themselves are actors (developers, disseminators or innovation implementers)

We will understand innovation in a broader sense and context. We will talk about so-called social innovation (see also Nemec et al., 2016; Bekkers et al., 2013).

There exist a broad range of quantitative and qualitative methods to evaluate the innovative potential of regions. Glebova and Kotenkova (2014) analyzed the regional innovation potential, using proposals of Alexeev (2009). Glebova and Kotenkova (2014) report following system of five regional innovation potential indexes groups with indexes mentioned in the Table 2.

Table 2. System of Regional Innovation Potential Evaluation Indexes

Index Groups	Indexes	Notation
Scientific Potential Indexes (SP)	1. Share of Personnel Number Involved in Research and Development in a Number of Those Involved in the Economy	S1
	2. Ratio of the Researchers with Academic Degrees (Doctors, Graduate Students) to a Number of Those Involved in the Economy	S2
Personnel Potential Indexes (PP)	1. Share of Higher Education Employees in a Number of Those Involved in the Economy	P1
	2. Ratio of a Number of University Students to a Number of Those Involved in the Economy	P2
Technological Potential Indexes (TP)	1. Fixed Asset Useful Life Factor	T1
	2. Fixed Asset Renewal Factor	T2
	3. Capital/Labour Ratio	T3
Financial and Economic Potential Indexes (FEP)	1. Ratio of Capital Investment Amount to GRP	E1
	2. Ratio of Domestic Research and Development Costs to GRP	E2
	3. Ratio of Innovation Goods, Works and Services Scope to the Total Scope of Goods Unloaded, Works Performed and Services Rendered	E3
Indexes of Information and Communication Component (IT)	1. Share of Organizations Which Used the Internet in a Total Number of Organizations Which Used ICT	I1
	2. Ratio of ICT to GRP Costs	I2
	3. Number of Personal Computers per 100 Employees	I3
	4. Share of Organization Which Have Its Own Web-Site in a Total Number of Organizations	I4

Source: (Glebova & Kotenkova, 2014).

Creation of regional innovation potential in current regional theories is seen like a complex / a system of actors and relationships between them. According to Nauwelaers

and Reid (1995) „main trends in methodological approaches to the evaluation of regional innovative potential in the European Union are discussed, pointing to the necessity of moving progressively towards a methodology taking into account interactions, both locally and externally, between the various components and actors of the innovation process“.

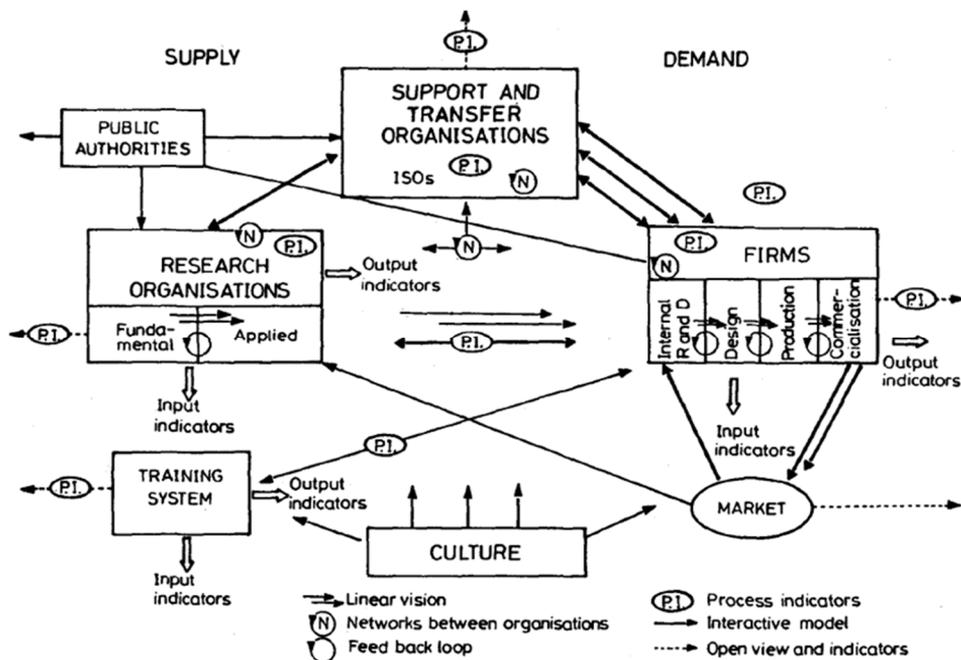


Figure 1. Regional system of innovation: linear and interactive views

Source: Nauwelaers, C. & Reid, A. 1995.

There exists a broad range of methodologies to evaluate the innovative potential of regions. It is not easy to use only quantitative analysis and quantitative indicators, higher importance is needed to better understanding of functioning of the innovative process at the regional level. European Commission within the European Innovation Monitoring System (EIMS) provides a "horizontal" dimension allowing policy research results to be turned into tools for those with responsibility for implementing practical programmes. This project involved a horizontal inventory and critical analysis of existing studies on the measurement and evaluation of regional technological innovation services and infrastructure, innovative networks and other aspects of the regional innovative potential.

Nauwelaers and Reid (1995) before reviewing the main trends in methodological approaches for evaluation of regional innovative capacities, they provide a conceptual representation of innovation dynamics at the regional level. The importance of this regional innovation process they consider as a key factor, more important, than merely listing the various determinants and indicators of regional innovation capacities and infrastructure.

The authors further mention a shifting accent from the single act philosophy of technological innovation to the social process underlying economically oriented technical novelty. This approach for example, among other things underlines the importance of

organisational capacities and networks of innovation in promoting regional economic and technological development. They are qualitative indicators or factors, which are difficult measurable, unique to some regions and to actors operating within.

In the last decade or so, a fundamental break has occurred with the previously dominant model of the linear research-to-market model. The influence of other institutions or factors such as market demand or education systems were acknowledged without particular attention being paid to the interactions between the various actors. Quality of public institution in the region appears to play important role with respect to innovation. Rodríguez-Pose, A., & Di Cataldo, M. (2014) using robust econometric techniques found that there is a strong link between the quality of government and the capacity of regions to innovate. Furthermore, Buesa et al. (2010) also argue that public administration and universities are very significant factors affecting the level of innovation in the regions (Buesa, M., Heijs, J., & Baumert, 2010). It is also found that regions dominated by large establishments tend to be less efficient than regions with a lower average establishment size. (Fritsch, M., & Slavtchev, V, 2011).

Maťáková and Stejskal (2011) speak of the following important actors in the innovation processes in the regions: 1. enterprises, 2. supportive enterprises and auxiliary enterprises, 3. environment and infrastructure. Maťáková and Stejskal (2011) also include the legal framework, strategic documents, "animators" of cluster initiatives, initiatives (public and private), hard and soft infrastructure (physical, technological, knowledge). At the same time, they stress that the system as such, without working relationships and coordination, is not a guarantee for the region's innovation or competitiveness. These are collaborative relationships, networking on a regional basis, but also clustering and specialization as key growth and competitiveness (Šipikal & Pisár, 2017).

Measuring the innovation potential is relatively demanding, resp. it is rather a complex of factors - prerequisites for supporting innovative activities in the region. These factors may exist in the region, but their interactions, the above-mentioned interactions and relationships may not be so intense. They are not measurable, so it is necessary to use qualitative analysis methods with aim to identify the nature and intensity of these interactions that are unique at a given time and place.

The above-mentioned elements of an innovation system of regions cannot be measured. It is a qualitative relationship, but there exist elements of an institutional system in the regions that can be tracked at least partially using quantitative analyzes. These institutional aspects of shaping and promoting regional innovation potential include strategies, policies, public support, public system. Among main methods supporting the regional innovation-driven development they mentioned:

1. the direct and indirect (through the government agencies) government funding of the research institutions and universities in the form of budget financing the operating costs, as well as allocating the targeted grants and placing the state orders for carrying out the research and development;
2. investing the budget funds in the capital of venture funds and other specialized financial institution involved in implementing the innovative projects;
3. financing the business incubators, industrial parks and other infrastructure objects of the innovation activity;
4. encouraging the organizations focused on the innovation activity;

5. providing such organizations with various tax benefits (tax credits, a deferment of taxes, accelerated equipment depreciation, multiplying coefficients, which allow reducing the base for calculating the profit tax);
6. the loan and guarantee support for the small and medium-sized innovation business (low or even zero interest rates, long-term maturities, minimum requirements for securing the obligations).

The intensity of this public support is quantifiable and can therefore be traced back to quantitative analysis of regional innovation potential.

RESULTS

First of all, we compare selected indicators among regions of V4 countries in order to find out the leaders and followers in selected dimensions of innovation potential. With respect to infrastructure we compare the access to internet and motorways in all NUTS 2 regions. As we can see in Figure 2, there are rather small regional differences in internet accessibility. On the other hand, regional differences in accessibility of motorways are significant. Two Czech regions are leaders in internet accessibility together with metropolitan region of Hungary. However, the metropolitan region of Slovakia - Bratislavský kraj, is best performing region in accessibility of motorways. Especially some regions from Poland and Slovakia are significantly lagging behind in terms of motorway availability.

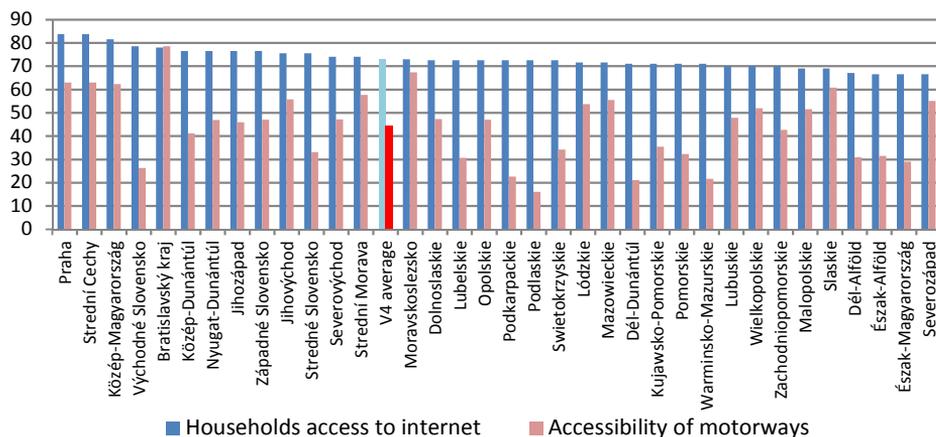


Figure 2. Internet access and access to motorways in NUTS2 regions of V4 countries

Source: own elaboration.

Next, we focus can be seen in Figure 3 and Figure 4. The order of regions is different in each case, our attention on tertiary education and R&D expenditures. The comparisons of these indicators but the best performing regions are mostly the same. All four metropolitan regions with capital cities (Bratislavský kraj, Praha, Közép-Magyarország and Mazowieckie) are performing significantly over the average in both indicators. Perhaps rather surprisingly, Czech region Jihovýchod is the leading one in total R&D expenditure.

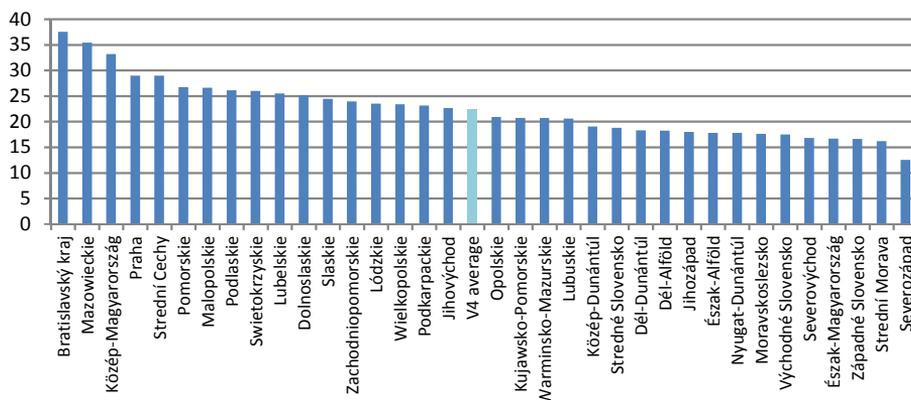


Figure 3. Share of population with tertiary education in NUTS 2 of V4 countries

Source: own elaboration.

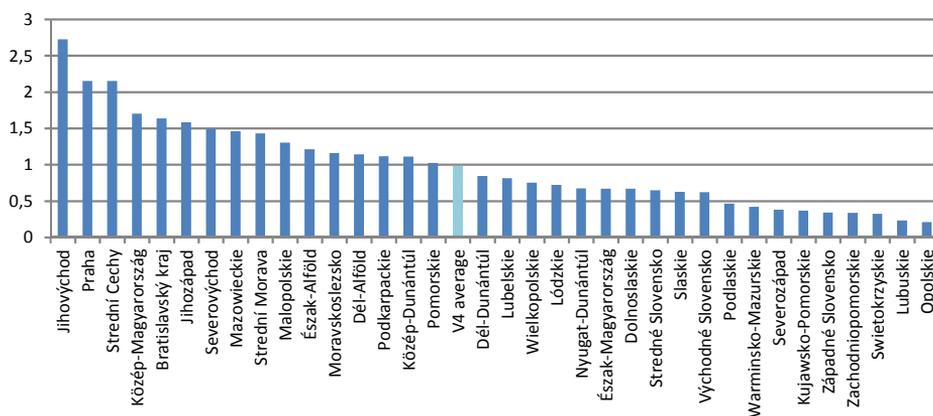


Figure 4. Total intramural R&D expenditure (%GDP) in NUTS 2 of V4 countries

Source: own elaboration.

In order to compare all regions based on one comprehensive indicator we used two different approaches. Firstly we used factor analysis. We apply the factor analysis to the eight indicators we have listed. Using factor analysis, we can reveal latent or hidden factors captured in the data. In our case we want to extract only one factor variable. We assume that in this case we can label this latent variable as a factor of the region's innovative potential. Using factor analysis, we reduce the number of dimensions from eight to one while retaining a significant share of variability captured in all eight variables. We used factor analysis based on the main component approach, which is the most common approach. In order to get as simple result as possible we decided to reduce number of factors to one only, despite the fact that two factor will allow us to capture more variability. Results of eigenvalues and percentage of captured variance are shown in Table 3.

Table 3. Components of extracted factor – innovation potential

	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	4,234	52,931	52,931
2	1,444	18,055	70,986
3	,992	12,406	83,392
4	,605	7,568	90,960
5	,457	5,711	96,671
6	,151	1,887	98,558
7	,115	1,442	100,000

Source: own study.

As can be seen in Table 4, the latent variable (or factor), which was extracted based on factor analysis, correlates to a large extent with most of the monitored indicators. The variability of the seven variables is captured to a large extent in one created variable. The exception is the proportion of employees working in services. This variability of this indicator is not captured in the factor. These results may also indicate that this indicator is not entirely appropriately chosen for explaining the region's innovation potential.

Table 4. Components of extracted factor – innovation potential

Component	Correlation with the component
Internet access	0,890
Total employment (except agriculture)	0,840
Quality of regional public services	0,808
Higher education	0,742
Scientific publications	0,703
Total R&D expenditure	0,698
Access to motorways	0,671
Share of employees in services	0,091

Source: own study.

We assign to each NUTS 2 region in EU28 the factor scores, which are based on the values of the created factor. According to values of factor score, regions can be ranked. This could also represent innovation potential of the region accessed based on selected indicators. The higher the factor score, the higher the region is rated for its innovation potential. Factor score values for all V4 regions as well as their successive ranking are presented in Figure 5.

Regions Bratislavský kraj, Praha and Střední Čechy appears to be those with the highest innovation potential according to this approach. Positive scores have also been achieved in Czech region Jihovýchod, while other regions have a negative score.

The second approach we used to build a ranking of regions according to their innovation potential is creating the comprehensive index. This index of innovation potential was created on the basis of the same eight indicators. Firstly, we normalized these variables by z-score and subsequently transformed them into an index. The base value of the sub-indices was equal to 100 for each indicator. This value represents the median value of all NUTS 2 regions in the EU. Subsequently, the values of sub-indices are derived from

this value. The index of innovation potential was subsequently calculated as the un-weighted arithmetic average of all eight sub-indices. Values were calculated for all NUTS 2 regions in the EU. In Figure 6, we can see the values of the index for V4 countries.

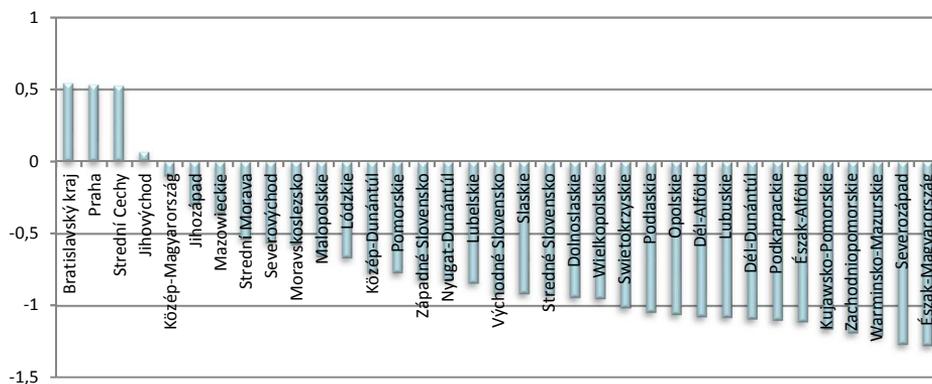


Figure 5. Ranking of regions in V4 countries according to innovation potential based on factor score
Source: own elaboration.

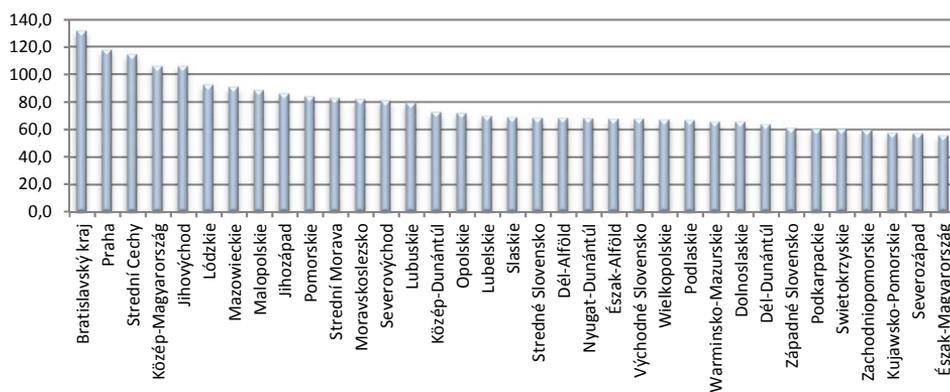


Figure 6. Ranking of regions in V4 countries according to overall innovation potential index
Source: own elaboration.

As it can be seen on both figures results are into an extent similar. Both rankings are comparable. Again we can see that the Bratislavský kraj, Praha and Střední Čechy are three regions with the highest innovation potential. The order of the first three regions as well as the last two regions remains the same as before. The Közép-Magyarország and Southeast regions changed their rankings from the fourth to fifth place and vice-versa. Nevertheless, the order of several regions is different. With respect to regions of Slovakia, in this case the results were slightly different and the second highest value of the index was achieved by region Středné Slovensko.

As it can be seen on both figures results are into some extent similar and comparable. In order to test this similarity we also calculate Pearson correlation coefficient of values and Spearman correlation coefficient of both rankings. Results are shown in Table 5.

Table 5. Correlation between results obtained by both approaches

Correlation between values and rankings obtained by factor analysis and construction of innovation potential index		
Pearson correlation coefficient - values	0.948	Very strong positive correlation
Spearman correlation coefficient – rankings	0.879	Very strong positive correlation

Source: own study.

As we can see there appears to be a strong positive correlation between results obtained by two different approaches. This is true for values as well as for rankings.

The results both methods for regions in Slovakia, together with the overall ranking of these regions within the EU, are shown in Table 6.

Table 6. Ranking of Slovakian regions according to innovation potential within the EU28 regions

	Factor score value	Ranking within all EU 28 (NUTS2) regions	Value of created index	Ranking within all EU 28 (NUTS2) regions
Bratislavský kraj	0.542	86. /268	131.3	76./268
Západné Slovensko	-0.821	202. /268	60.9	232./268
Stredné Slovensko	-0.926	209. /268	68.2	214./268
Východné Slovensko	-0.916	212./268	67.3	219./268

Source: own study.

Metropolitan region of Bratislava dominated in V4 regions in the case of both methodologies. However, this region is still only at 86th or 76th place respectively among all regions in EU 28. Thus in general, we can say that innovation potential in the regions of V4 countries are still mostly lagging behind the best performing regions in the EU 28.

Based on our results we can make certain conclusions regarding to our research hypothesis introduced in the methodology section. Firstly our findings support the assumption that innovation potential of metropolitan regions containing capital city is the highest from all regions in every Visegrad countries. There is only one exception from these rules. Hence, region Lodzkie in Poland is outperforming metropolitan region of Warszawa by small margin when using second approach (index). Regions from Czech Republic Secondly, Regions of Czech Republic are mostly ranked in the first half of the ranking. However, there is at least one exception. Czech region Severozapad is significantly lagging behind other Czech regions and achieves one of the worst results of all regions.

However, it is important to notice that our methodology have certain limitation. First of all, innovation potential is very complex multidimensional problem and its measurement is difficult. We used only limited number of measurable and available variables, but there are many more different factors affecting this problem. Furthermore, despite the fact that we used eight variables the output factor describe only approximately 53% of their variability. Hence, in the analysis we have only limited view on innovation potential. Moreover, there seems to be rather significant differences not only between regions but

also within most of the regions. We are not able to capture and examine this heterogeneity within NUTS2 regions due to lack of data at lower levels.

As far as we know there no similar study dealing with innovation potential in regions of Visegrad countries. However, our results for Czech regions are into some extent similar to those obtained by Pokorný et al. (2008).

CONCLUSIONS

There is rather broad range of quantitative and qualitative methods to evaluate the innovative potential of regions. We measured and compared regional innovation potential using selected quantitative indicators. It is not easy to use only quantitative analysis and quantitative indicators. In current regional theories higher importance is put to better understanding of functioning of the innovative process at the regional level. Significant group of innovations determinants are the result of the networking and cooperation of various regional actors. The qualitative side of this process (the strength and nature of relationships, cooperation), the interaction of actors, the ability to apply the acquired knowledge to practice - these are qualitative factors of an innovative process that is difficult to quantify or measure. However, we decide to compare innovation potential based on selected indicators capturing the dimensions of infrastructure, human capital, research and development, labour market and institutions. We constructed comprehensive index that could into some extent capture the innovation potential of the region. Moreover, we also used factor analysis in order to extract one common factor that can reflect the innovation potential. Based on our results we can say that innovation potential is significantly higher in metropolitan regions of Bratislava, Prague, Budapest and Warsaw. All four regions containing capital cities are performing very well in general. However, there are also other two regions in Czech Republic (Střední Čechy a Jihovýchod) that reach also very high values. Despite this fact, it is important to mention that most of the regions in V4 countries still significantly lagging behind the top performing regions in EU 28. There is still lot of afford needed to improve innovation potential in less developed regions.

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Competitiveness profiles of manufacturing mesostructure

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Abstract

The objective of this article is assessment of competitiveness and identification of manufacturing mesostructure characteristics in Poland in 1990–2017. The analysis is presented in the context of an assessment of transformation effects in the countries of Central Europe (CEB, SEE) with regard to structural changes and macroeconomic competitiveness. The author's own research concerned 14,000 enterprises (full test, whole group of enterprises included in the public statistics in Poland) and concerned mesostructure development phases, changes of PKD divisions, the focal point way, objects classification and comparative analysis of submesostructure profiles. The research includes synthetic (multivariate) competitiveness measures. The measurement concerned the synthetic measure, its two partial measures (productiveness of labour and export productiveness of costs) and its factors (unit costs and efficiency of labour and intensity of export activity and general effectiveness). The value of the conducted research is its uniqueness – the analysis concerns all enterprises covered by public statistics and included in the manufacturing mesostructure of the Polish economy. This is the first research of this type in Poland. An important added value is the constructed model of factor analysis of the competitiveness and variability of the mesostructure and its profiling in terms of the size classes of enterprises. This is the first model to be used in the assessment of competitiveness at the mesoeconomic level of the countries undergoing transformation in Central Europe.

Keywords: competitiveness; productivity; mesostructure

JEL codes: L10

INTRODUCTION

Changes and economic transformations constitute a broad platform for research studies. It includes a multiple processes creating the main fields of changes: macroeconomic stabilization, microeconomic liberalization, institutional restructuring and privatisation. In Poland the transformation model can be characterised by its radicalism of changes, the heterodoxy of reforms, the rapid opening up of the economy, the anticipatory character of solutions, and integration with developed countries. The implementation process revealed a number of dilemmas and disharmonies (Åslund, 2002) including the unjustified attribution of key significance to privatisation as a measure of quality changes (Radulescu & Barlow, 2005; Staehr, 2003). It was clearly pointed out by M. Friedman, who stated that the rule of law is more important, leading to the creation of market institutions (Fukuyama, 2004).

The end of the process of changes and their effects highlights the semantics of the term “transformation” vs transition (Gros & Steinherr, 2004; Koźmiński, 2008). In Poland, an economic system was created in which economic policies became an exogenic factor regulating only the dynamism of the system. It indicates the accomplishment of an economic transformation, or rather – the accomplishment of this phase (industrial civilisation) which has not led to the modernisation of economic structures and implementation of solutions appropriate for an information-based civilization and a knowledge-based economy (Grogan & Moers, 2001; Heybey & Murrell, 1999).

The changes relate to the developmental processes of the economy creating the image of multiple simultaneous transformations (Roland, 2000). The detailed objectives and key developmental processes referring to them include: structural changes, increase in competitiveness and restructuring as well as the development of entrepreneurship and enterprises (Bałtowski & Miszewski, 2006). Competitiveness is the subject of interest in this article.

The review of the literature indicates a significant gap in the form of a lack of knowledge, mainly in the field of empirical cognition, referring to the study of competitiveness at the mesoeconomic level. The numerous constraints on the limited access to figures, as well as the multiplicity of elements necessary to cover the analysis and their structural links, are the main reasons for this gap and for this reason the research has to be undertaken.

The article presents the results of the author’s research concerning competitiveness – one of the four aforementioned processes. Therefore, I created the analytic model using the connection between the factors and partial measures constituting the synthetic measure of competitiveness. The analysed structure – crucial for the economy (61.9% of produced value added) – is manufacturing mesostructure in Poland in 1990–2017. The research concerned 14,000 enterprises – full test, whole group of enterprises included in the public statistics in Poland (data relating to individual companies).

The objective of this article is the assessment of competitiveness and identification of manufacturing mesostructure features. The analysis and assessment included the density of mesostructure objects, position of focal point and its way. The classification of objects was also conducted. It was performed with the use of defined normative patterns. During the survey, the test of similarity level of manufacturing mesostructure profiles was conducted with the application of average rank position, variability of this position and normative patterns. The criterion used to extract the submesostructures was the class of enterprise size (small, medium, large).

The assessment of transformation effects in the countries of Central Europe (CEB, SEE) with regard to structural changes and macroeconomic competitiveness is the background of the research of mesoeconomic competitiveness. An assessment of the intensity of transformation is provided using a transition rate (6 partial measures). Its broadening is the assessment of structural changes (16 partial measures collected in four groups). In the assessment of macroeconomic competitiveness, the in-depth study focused on its structure – the factors that determine it (12 pillars forming a measure of competitiveness).

The value of the research lies in its uniqueness. As it has been pointed out earlier, it concerns all enterprises covered by official statistics and included in the manufacturing mesostructure of the Polish economy (therefore, surveys are not based a research sample). This is the first study of its type in Poland. The value of the research is created by a constructed model of factor analysis of the competitiveness and variability of the mesostructure and its profiling in terms of enterprise size classes. This is the first such model to be used in the assessment of the competitiveness at the mesoeconomic level of the countries undergoing transformation in Central Europe.

The value of research is also enhanced by a broader perspective on understanding and assessing competitiveness. The research of manufacturing mesostructure of the Polish economy is presented in a wider context of the assessment of macroeconomic competitiveness and transformation of the Polish and Central European economies, which broadens the context of understanding this complex economic category.

LITERATURE REVIEW

Competitiveness is a diversified concept which is difficult to examine, inter alia, due to the necessity of comparison with the environment. It is also criticized for overrating its role, lack of clear definitions, and for the difficulty of evaluating and selecting its measures. It arouses numerous controversies – to the point of questioning its meaning as a factor of change – which, however, should be regarded as transition phases in the evolution of the understanding of its changing meaning, especially under the influence of such a process as internationalisation (Nazarczuk, 2008). These problems are also highlighted in the description of the ongoing systemic changes in Poland (Krugman, et al., 2014; Zinnes, Eilat & Sachs, 2001; Kaczmarek, 2016).

Competitiveness originates from competition – it is its materialisation and results in changes in the competitive position of the organisation (Reynauld & Vidal, 1998). They demonstrate the organisation's ability to effectively achieve its objectives (Frischtak, 1999), while highlighting the impact of competitiveness on the harmonisation of its stakeholders' objectives (Bossak, 2006). In a broad sense, the competitive position is one

of the links in the competitiveness chain – it is complemented by instruments of competition, competitive advantage and potential of competitiveness (Stankiewicz, 2000).

However, views on the nature and structure of competitiveness are mixed (Obłój, 1998), which results from different research approaches formulated in relation to competitive markets (Dunford, et al., 2001). This research concerns both the competitive struggle between operators and their ability to maintain or increase their market shares (Feenstra, 1989). Generally speaking, there are four main trends in competitiveness research that can be subsumed from the opinions expressed: in the area of economic growth theory, international trade, distortions and competition (Wziątek–Kubiak, 2003). However, it is more often analysed in the context of management sciences (the way of gaining competitive advantage) than in the discipline of economics (relating to the increase in the efficiency of entities and economic growth).

Many opinions argue that competitiveness is a purely microeconomic category, as a country cannot be eliminated from the market, as indicated by P. Krugman, as a goal of competition (Krugman, 1994b). Moreover, the competitiveness of countries is shaped by factors other than production efficiency, which contradicts the concept of M.E. Porter's competitive advantages. However, it is subject to criticism (Foss & Mahnke, 1998; Kraft, 2000), and M.E. Porter's views also point to an evolution in this respect (Porter, 2008), which broadens the scope of discussion.

The visible stratification of the notions of competitiveness leads to the conclusion that from the subjective point of view, competitiveness is multifaceted. The following can be distinguished: mega scale (group of countries), macro scale (state), meso scale (sector, industry), micro scale (enterprise), micro scale (product) (Dzikowska & Gorynia, 2012). Developing, at the micro and meso levels, a static approach is visible (photographic – level, rank, result), while at the macro and mega levels, it is dynamic (tomographic – ability to compete in the long run) (Bieńkowski, 2007). In the opinions in question, microeconomic competitiveness itself (most often surveyed) is also multifaceted (Faulkner & Bowman, 2000), with a possible distinction being made between competitiveness in the sense of the largo and in the strict sense (Galli & Pelkmans, 2000), while the mesoeconomic level is the least defined and researched (Olczyk & Daszkiewicz, 2008).

The processes of internationalisation (globalisation and integration), the development of knowledge and the information society, deregulation, liberalisation, the development of financial markets and instruments, the development of technology and a new explosion of innovation, the universality and speed of information transfer are characteristic features of the modern economy. As a result, the technical and economic conditions for international competition have changed (Naisbitt, 1984). We should agree with the view that these processes have not only made competition more intense, but have also made it possible to create and distribute more and more added value on a global scale (DeVet, 1993; Yang, 1995).

Currently, the competitive advantage is determined by the dispersion of resources, specialisation of operations and interdependence in operation, and radical changes cancel out previously developed skills (in accordance with the concept of creative destruction of J.A. Schumpeter) (Cyrson, 2002). The value chain is no longer a new centre and competitive advantage, but a module (one or more links in the value chain linked to outsourced activities). Further value chain modules are the basis for creating new activi-

ties and migrating to new markets (Hitt, et al., 1998), and so the vertically integrated value chain is decomposed. Semi-permeable borders are emerging, and new, loose links between entities are emerging – virtual organisations, network organisations, modular organisations (Makadok, 1998).

The concept of average competitive advantage in the chain and the concern for the efficiency of the entire value chain are not sufficient today to describe the rapidly changing economic reality. The point of reference for competition is no longer an industry. There are clusters of enterprises, clusters of competitive sectors (clusters), which emphasize the mesoeconomic perspective of understanding processes taking place in the economy (Best, 2015).

The economic structure is a specific type and arrangement of elements of the economy that make up the whole and the set of relations between them – the relation between elements and between elements and the whole. Its analysis from the point of view of the degree and level of aggregation distinguishes between macro, meso and microstructure. The most common field of exploration is changes in economic macrostructures – in order to search for the general correctness of these changes. Mesostructure research is very rare. The barriers are informational constraints, a multiplicity of elements and structural relationships. However, contemporary economic knowledge provides many prerequisites for undertaking research at the mesoeconomic level – in order to understand the process of economic development and identify its effectiveness factors, attention should be focused not on the macrostructure, but on its elements (Kaczmarek, 2012).

The mesostructure of the economy includes a layer of elements and structural relationships between the macro and micro levels. Numerous processes taking place in it characterise and shape its effectiveness, affecting not only the macro but also the microstructure of the economy (interaction) (Janasz, 2006). It is therefore necessary and desirable to study the interdependence between the dynamics of effectiveness and those of the processes shaping it at the mesoeconomic level. This is particularly true in the case of the transformation period economy, which is still the case in Poland. The key development processes are: structural changes, growth of competitiveness, restructuring and development of entrepreneurship and enterprises. In the article the subject of interest is competitiveness.

The ambiguity of the definition of competitiveness translates into its assessment, in which theoretical measures are much broader than the possibilities of their application in practice. At the macroeconomic level, synthetic, simplified or partial measures are used, developed. Another method of evaluation is the use of multi-indicator analysis with a weighting system and determination of a synthetic index (Zinnes, Eilat & Sachs, 2001). Microeconomic competitiveness assessment uses measures of efficiency (financial results and share of export sales), sources of building competitiveness potential and ways of shaping the microenvironment. From among the four previously distinguished streams of research on competitiveness, two ways of assessing changes in competitiveness are most often used. In the first case, coverage ratios (export to import ratios) and export ratios (export commodity structure) are used. In the latter case, competitiveness is assessed by examining relative price movements, efficiency changes (total productivity, unit costs, labour costs) and changes in export share indices (Marsh & Tokarick, 1994; Aiginger, 1998). This method of assessment has become a premise for the development of a method for measuring competitiveness at the mesoeconomic level, which is the subject of research in the article.

The review of the literature indicates a significant gap of knowledge, mainly in the field of empirical cognition, referring to the study of competitiveness at the mesoeconomic level. The numerous constraints on the limited access to figures, as well as the multiplicity of elements necessary to cover the analysis and their structural links, are the main reasons for this gap and for this reason the research has to be undertaken. Their results are presented in the article. For the purposes of these studies, the objectives referred to in the introduction to the article have been defined. They became the basis for the formulation of research questions, and the proven hypotheses for the Polish economy are:

- H1:** Development of manufacturing mesostructure is characterised by phase, objects diffusion and increasing permanency of their rank positions.
- H2:** Factor of manufacturing mesostructure competitiveness growth is based on export rather than labour productivity.
- H3:** Profiles of manufacturing submesostructures according to enterprise size classes are different.

METHODOLOGY OF MESOSTRUCTURE RESEARCH

In the article, I presented, as the key information, the results of own research of manufacturing mesostructure characteristics in the Polish economy in 1990–2017, considering the assessment of its competitiveness. The PKD divisions constitute the objects of tested mesostructure being created completely of units i.e. enterprises (all group research)¹. I applied my own model in the survey and constructed the multivariate (synthetic) competitiveness measure (CM) (Fig.1).

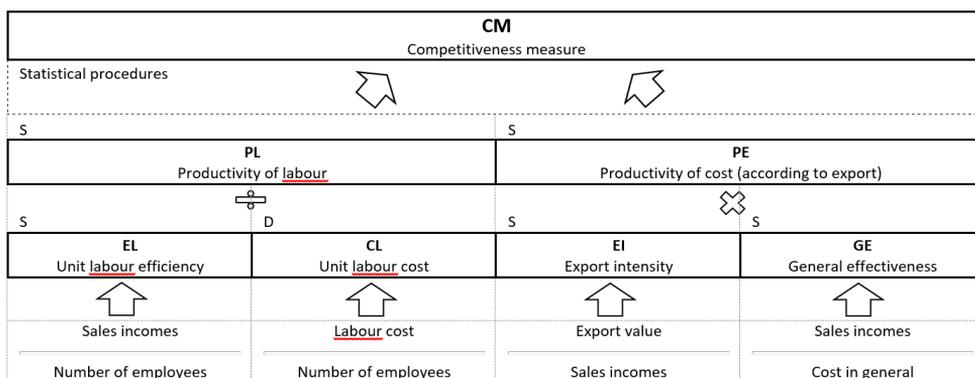


Figure 1. Elements of research and construction scheme of competitiveness measure (CM)

Notes: S – stimulant, D – destimulant. For the higher values of CM – positive, high assessment.

Source: own elaboration.

¹ Privately paid research – whole group of enterprises included in the public statistics (unit data). In 2007–2017 (classification of PKD 2007) the research included 14,290 enterprises – non-financed subjects of number of employees from 10 people who submitted the statistical statement F-01/-01 and F-02 and SP) in scope of 24 PKD divisions of industrial manufacturing. For years 1990–2007 (classification of PKD 2004), it included 14,974 enterprises and 22 PKD divisions. The share of manufacturing enterprises in research in the value added of manufacturing activity equals 61.9%. The source of primary figures: commercial data base of PONT Info – Gospodarka (ŚSDP).

This measure uses four factor elements creating two partial measures and the statistic procedures aimed to describe a multivariate measure.

In its construction, the objects were transferred at first from the original multidimensional space to the new one that was created as the result of applying the linear transformation on axes of original coordinate system (standardisation). Further, the destimulants were changed into the stimulants and their negative values were eliminated by scalar subtracting (variable negative value). Finally, the Euclidian distance d_{i0} was determined for the particular objects from the coordinate of anti-pattern which created the beginning of coordinate system in this case. All of this created multivariate measurement presented by the formula:

$$d_{i0}(CM) = \sqrt{\sum_{j=1}^K (x_{ij} - x_{0j})^2} \quad (1)$$

where:

$$x_{0j} = (0, \dots, 0)_K;$$

K - number of multivariate measure components ($j = 1, \dots, K$).

In the field of competitiveness measure (CM), the characteristics and results of the following areas are mixed: efficiency and unit cost of labour² as well as export intensity and general effectiveness³.

Cost of labour (CL) and unit efficiency of labour (EL) are crucial economic relations describing the use of human labour factor. Their size, and primarily the direction and dynamism of changes (CL advance factor by EL) enable to explain the value of result in the form of productivity of labour cost stream (PL).

The intensity of export activity (EI) quantifies the share in the international division of labour and is the element of position assessment and competitive ability of economic unit. Using the measure of overall cost measure, the general effectiveness (GE) of its functioning can be assessed. Relating these two factors with each other, the strength of their impact on result size (cost productivity in regard to export – PE) and the level of advance level of factors (GE by EI) were tested.

The analysis and assessment included density of mesostructure objects, position of focal point⁴ and its way. The classification of objects was also conducted. It was performed with the use of average rank position⁵ and its variability⁶. Other four groups of objects (normative patterns) are characterised in the scope of competitiveness (CM) by: I – high and stable position, II – high position of significant variability, III – low but stable position, IV – low position of significant variability⁷.

During survey, the test of similarity level of manufacturing mesostructure profiles was conducted with the application of average rank position, variability of this position

² Unit efficiency of work is described by the relation of incomes in general to the number of employees and the unit cost of work by the relation of work cost (cost of remuneration, social insurance and other) to the number of employees.

³ Intensity of export is described by the relation of incomes from export to incomes in general, and effectiveness is defined as the relation of incomes to the cost in general.

⁴ The mesostructure focal point is expressed by the reference of sums of objects factors sizes (and not result-related).

⁵ As the solution of problem with related ranking, the method of average rank was chosen. The rule was to assign the smallest ranking value to the highest value of analysed measure.

⁶ The standard deviation was applied as the variation measure. Lower values of deviation are accompanied by observations being closer to the average (lower variation).

⁷ The groups are divided by the average ranking position of 12 and standard deviation – 3.

and normative models. The criterion used to extract the submesostructures was the class of enterprises size (small, medium, large)⁸.

The density of objects was checked with the use of density factor (DF) elaborated. It is counted as the square root of covariation matrix determinant and described by the formula:

$$F = \sqrt{s_x^2 s_y^2 \cdot (1 - r_{xy}^2)} \quad (2)$$

where:

s_x^2, s_y^2 - variance of determinant x , variance of determinant y ;
 r_{xy}^2 - Pearson linear correlation factor between x and y .

The value of this factor is proportional to area of ellipse including the tested set of objects on the level.

The broader discussion on the methodological terms concerning the competitiveness measurement can be found in (Kaczmarek, 2012).

The determinism attitude – logarithm method – was used in the casual research. The starting point was the state of balance between the dynamism of defined variable (D_Y), and the ratio of dynamics of defining variables ($D_{X1}, D_{X2}, \dots, D_{Xn}$).

$$\begin{aligned} D_Y &= D_{X1} \cdot D_{X2} \cdot \dots \cdot D_{Xn} ; \log D_Y = \log(D_{X1} \cdot D_{X2} \cdot \dots \cdot D_{Xn}) \\ R_Y &= \frac{\log D_{X1} + \log D_{X2} + \dots + \log D_{Xn}}{\log D_Y} = 1 \\ R_{X1} &= \frac{\log D_{X1}}{\log D_Y} ; R_{X2} = \frac{\log D_{X2}}{\log D_Y} ; \dots ; R_{Xn} = \frac{\log D_{Xn}}{\log D_Y} \\ R_Y &= R_{X1} + R_{X2} + \dots + R_{Xn} \end{aligned} \quad (3)$$

The application of logarithm function allows for transforming the sequence of defining variables dynamism product into the sequence of sum and further, the comparison of logarithm of defining variable with the unit. In the same way, the partial deviations are indicated (R_x) as the indicators of the structure describing the share of defining variables in the influence on the defining variable (R_Y).

In the test of independence of phenomena (time series), the critical level of significance was $\alpha=0.05$ compared with the test probability (p -value). P -value being lower than the critical level of significance enables to act ad hoc as if the null hypothesis of no correlation was rejected. The applied measurement of correlation is r -Pearson coefficient (r), and the measure of variation is standard deviations (σ).

FINDINGS AND DISCUSSION

Intensity of change processes in transition countries

In the article, the CEB transition countries (nine, including Poland) and three countries of SEE⁹ group, are the subject of analysis of transition processes (marked as ET-12¹⁰). An

⁸ SSE (small-size enterprises) – 10 to 49 employees, MSE (medium-size enterprises) – from 50 to 249 employees, LSE (large-size enterprises) – above 249 employees.

⁹ CEB – Central Europe and the Baltic States, SEE – South-Eastern Europe.

assessment of the intensity of these processes is provided using¹¹ a transition rate (TR)¹². Its broadening is the assessment of structural changes – SC¹³ measure. The assessments constitute the background for the competitiveness analysis.

The intensive transformation changes in the ET–12 countries took place in the 1990s, including the decrease in dynamics and proceeding stabilization. From 2012, their dynamism lapsed in fact.

Entering onto the way of changes, the countries of ET–12 were characterised in 1989 by the value of transition rate (TR) – the average constituted barely 30% of level of EU15 countries (the countries of “past” EU – 4.3). Five countries were distinguished: Slovenia, Croatia and Serbia, Poland and Hungary. After 28 years of transformations, the average value for the ET–12 countries increased almost 3–times reaching the level of 88% of EU15 countries. In 2016, the leader was Estonia, and then Poland, Hungary, Czech Republic and Slovakia.

Except Serbia, the changes proceeded in a rather narrow transition channel. In its scope, the process of changes was rather varied for the countries, distinguishing the models and strategies of their implementation (Kaczmarek, 2016) (Fig. 2).

Weakening of transition dynamism from 2012 described by transition rate (TR) – or in fact its stopping – is confirmed also by the low dynamism of structural changes (SC). The noticeable and positive changes that occurred in 2010–2016 concerned the road infrastructure, MSME financing and the application of natural sources of energy. Worsening concerned the production of electric energy, railway infrastructure and insurances and other financial services.

Saturation of structural changes is strongly varied – ET–12 countries are assessed highly for the changes in industry, real estate market and ICT. They are still weak at the development of road infrastructure, agriculture and balanced energy production. The greatest distance to the EU15 countries concerns the development of financial sector – MSME financing, capital market and Private Equity.

The differences between the ET–12 countries are clear – Czech Republic, Estonia, Poland and Slovakia (this one showed the highest positive average annual pace of structural changes) are the leaders. However Hungary has significantly withdrawn from its level in recent years (Fig. 3).

¹⁰ Poland – POL, Czech Republic – CZE, Slovak Republic – SVK, Hungary – HUN, Estonia – EST, Lithuania – LTU, Latvia – LVA, Croatia – HRV, Slovenia – SVN, Serbia – SRB, Bulgaria – BGR, Romania – ROU.

¹¹ Methodology of research and construction of indicators available for the publication series of Transition Report, EBRD, London. For 2015–2016 own research using EBRD methodology. <http://www.ebrd.com/what-we-do/economic-research-and-data/data/forecasts-macro-data-transition-indicators/methodology.html>, access on: 28.03.2018.

¹² TR measure includes 6 partial measures: Governance and enterprise restructuring, Price liberalization, Trade and Foreign exchange system, Competition Policy, Small scale privatization, Large scale privatization. Point-based grading scale 1.0–4.5.

¹³ SC measure includes 16 partial measures collected in four groups: Corporate sectors: AB – Agribusiness, GI – General industry, RE – Real estate, ICT – Information and communication technologies, Energy sector: NR – Natural resources, SE – Sustainable energy, EP – Electric power, Infrastructure sector: WW – Water and wastewater, UT – Urban transport, RO – Roads, RA – Railways, Financial sectors: BA – Banking, IN – Insurance and other financial services, MSME – Micro–Small–Medium Enterprises finance, PE – Private equity, CP – Capital markets. Point-based grading scale 1.0–4.5.

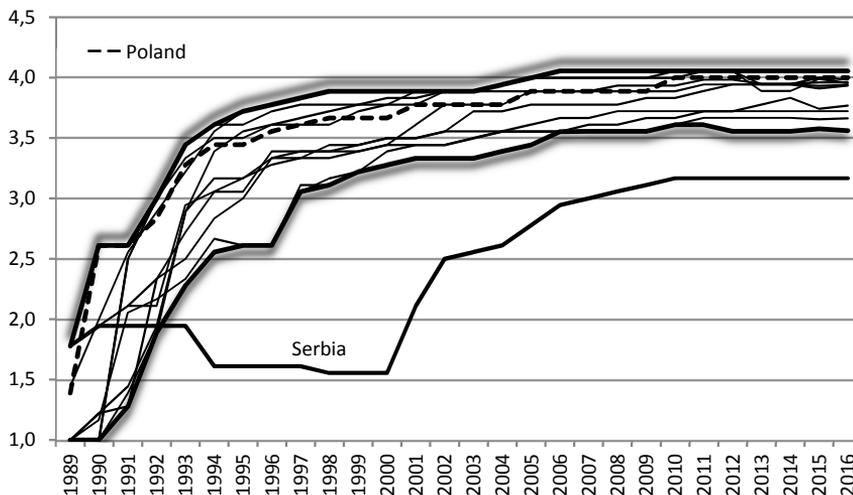


Figure 2. Values of transition rate (TR) of ET-12 countries in 1990–2016

Source: own elaboration based on: <http://www.ebrd.com/what-we-do/economic-research-and-data/data.html>, access on: 18.03.2018; for 2015 and 2016 own calculations based on EBRD methodology and data bases: <http://ec.europa.eu/eurostat/data/database>, access on: 12.03.2018; <https://data.oecd.org>, access on: 14.03.2018; <http://www.imf.org/en/data>; <http://data.worldbank.org>, access on: 14.03.2018.

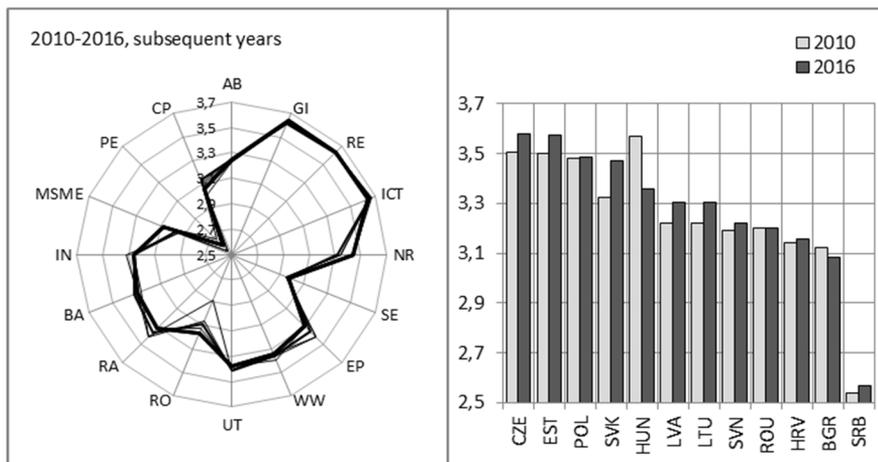


Figure 3. Value of structural changes measure (SC) for ET-12 countries in 2010–2016

Notes: AB – Agribusiness, GI – General industry, RE – Real estate, ICT – Information and communication technologies, NR – Natural resources, SE – Sustainable energy, EP – Electric power, WW – Water and wastewater, UT – Urban transport, RO – Roads, RA – Railways, BA – Banking, IN – Insurance and other financial services, MSME – Micro–Small–Medium Enterprises finance, PE – Private equity, CP – Capital markets.

Source: same as Figure 1.

Macroeconomic competitiveness

The place of Poland on the map of economic transformation – of accomplished transition and structural changes – has been still high, including the group of ET–12 countries. The pillar for development is competitiveness – it is also the main aim of transformational changes. Poland took the 39th place in the rank of World Economic Forum in 2017 edition of research (key data for 2016) according to GCI (Global Competitiveness Index¹⁴). In reference to place from the beginning of 1990s, it is a significant improvement.

Poland with its GCI value of 4.59 (18th place in Europe) achieved 78.3% of leader's result (Switzerland), 81.2% of Germany's result – its greatest trade partner, and 91.4% of the EU15 result. In the group of analysed ET–12 countries, Poland is taking third place after Czech Republic and Estonia. In 2007–2017, it achieved 7.4% of competitiveness assessment but the leader of dynamism of changes in the group was Bulgaria (14.5%) and then Romania (8.3%) (Fig. 4).

It is important to look at its structure, i.e the creating factors. GCI measure is supported by 12 pillars¹⁵ built on 114 variables. The countries of EU15 are characterised by the relatively balanced system of competitiveness pillars. The greatest predominance is shown by pillar 4 (Health and primary education) and 9 (Technological readiness), 2 (Infrastructure) and 5 (Higher education and training). In this background, the distance of Poland to EU15 model (average) indicates the predominance only for pillar 10 (Market size) and 3 (Macroeconomic environment). However, the significant shortages (above 10%) concern six pillars: 12 (Innovation), 1 (Institutions), 11 (Business sophistication), 2 (Infrastructure), 9 (Technological readiness) and 7 (Labor market efficiency). The image of competitiveness potential structure achieved by Poland is close to the development of Italy and Spain, but distant from Germany (referring to the level and degree of competitiveness pillars balance). These characteristics are also appropriate for description of the differences between the model (average) of ET–12 countries and EU15 countries.

Within last ten years (data available from 2007), the countries of ET–12 expressed the improvement in pillars 2–6 and 9–10, stagnation in pillar 12, and decrease in pillars 1, 7, 8 and 11. The visible success are only the changes in pillar 2 (Infrastructure) and 9 (Technological readiness). In that time, Poland showed the decrease of pillar 7 (Labor market efficiency) and 8 (Financial market development). The situation has improved in other pillars, but the significant change occurred only in pillars 2 and 9 (Fig. 5).

¹⁴ Methodology of research and construction of indicators available for the publication series of The Global Competitiveness Report, WEF, Geneva. <http://reports.weforum.org/global-competitiveness-index-2017-2018/#topic=methodology>, access on: 29.03.2018.

¹⁵ Pillars of GCI include: 1 – Institutions, 2 – Infrastructure, 3 – Macroeconomic environment, 4 – Health and primary education, 5 – Higher education and training, 6 – Goods market efficiency, 7 – Labor market efficiency, 8 – Financial market development, 9 – Technological readiness, 10 – Market size, 11 – Business sophistication, 12 – Innovation.

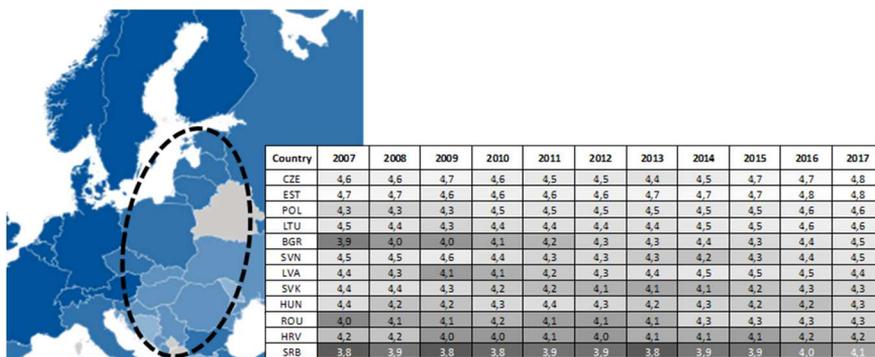


Figure 4. Competitiveness 'heat map' (GCI) for ET-12 countries in 2007-2017

Source: own elaboration based on The Global Competitiveness Report (2006/2007 ... 2017/2018, <http://reports.weforum.org/global-competitiveness-index-2017-2018/#topic=data>, access on: 29.03.2018.

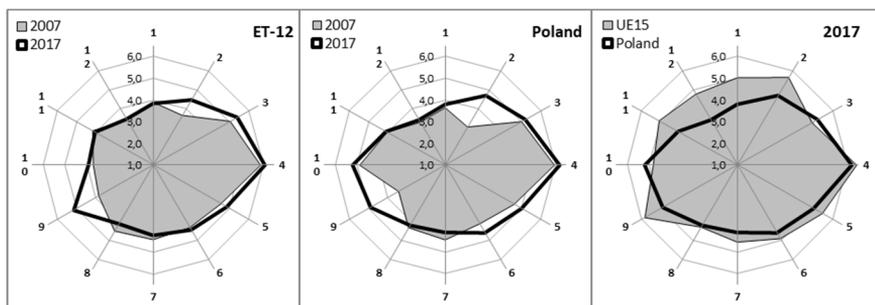


Figure 5. Competitiveness measure (GCI) for Poland and group of countries in 2007 and 2017

Notes: 1 – Institutions, 2 – Infrastructure, 3 – Macroeconomic environment, 4 – Health and primary education, 5 – Higher education and training, 6 – Goods market efficiency, 7 – Labor market efficiency, 8 – Financial market development, 9 – Technological readiness, 10 – Market size, 11 – Business sophistication, 12 – Innovation.

Source: <https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018>, access on: 29.03.2018.

Intensity of export and general effectiveness

The long horizon of productivity observation (PE) enabled to separate three phases of changes as the result of research. The first one is started by the period of transformational recession (1990–1992) with the rapid decrease of PE value and its both factors (EI and GE). Then, the stabilization and gradual increase of PE started from 2000, with the still worsening general effectiveness (GE). The second phase (from 2007) was a rapid growth of export intensity (EI) and the improvement of general effectiveness – the level of productivity PE increased significantly. In 2008, the short-term negative effects of crisis started to be noticeable. In 2009, the increase of productivity PE started due to the increase of EI, and stabilization of GE (3rd phase). In the analysed period (1990–2017) factor EI revealed very strong and statistically significant correlation with the result measurement PE ($r=0.99$, $p\text{-value}=0.00...<\alpha=0.05$) (Fig. 6, left panel).

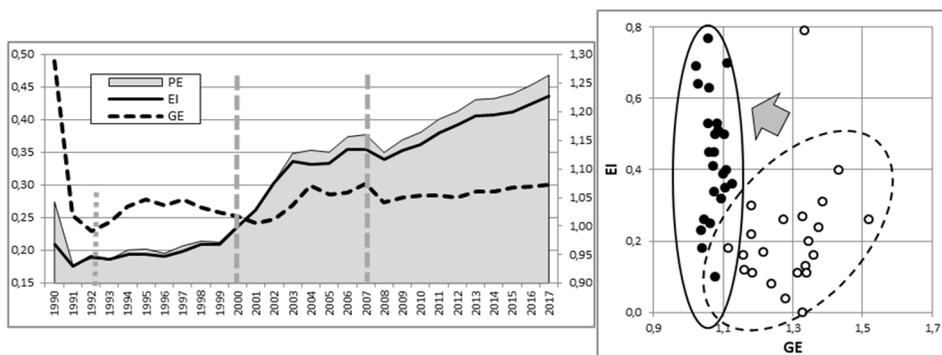


Figure 6. Productivity factors of PE of manufacturing mesostructure in 1990–2017 (left panel) and the change of its objects positions (right panel)

Notes: values of measures given as non-nominated. PE – Productivity of cost (according to export), EI – Export intensity, GE – General effectiveness (right axis).

Source: own elaboration based on commercial data base of PONT Info – Gospodarka (SŚDP), <http://baza.pontinfo.com.pl/index.php>, access on: 29.03.2018.

The mesostructure at the beginning of transformation period in the scope of PE productivity (after the shock and transformational recession) is the collection of objects without any significant grouping, rather quite diffused. The results of observation in 2017 draw attention to the assimilation of mesostructure objects regarding to the factor GE and factor EI became the factor differentiating the objects (Fig. 6, right panel).

The way to focal point of mesostructure can be divided into three fragments: 1990–1992 – decrease in EI value especially GE, 1999–2003 – significant increase in EI value and lower increase in GE, 2009–2016 – increase in EI value and stabilization of GE. There are two periods of changes, visible between these fragments, without a clear tendency (multiple changes of direction). Therefore the most advantageous and intensive period of mesostructures transformation with regard to PE was the 1999–2003 period and the second phase of changes (before and at the beginning of entering into EU). The last phase had strong and dominant impact on factor EI.

The densification of objects had lasted until 1997, and then with the changeable intensity, the process of their diffusion started to proceed especially between 2010–2012. The conducted test of time series correlation of measurements DF and PE indicated the weak and statistically insignificant dependence ($r = -0.26$, $p\text{-value} = 0.0753 > \alpha = 0.05$).

Labour cost and efficiency

In the longer perspective, from the point of view of labour cost productivity (PL), I distinguished three phases of changes. The first one (1990–2001), with the starting period of transformation recession is the alternating fluctuation of PL with slightly progressive trend – from 1993, the efficiency (EL) and unit cost of labour (CL) started to increase. The second phase – there is a significant growth of PL from 2002 until 2011 (disturbed by the observation of financial crisis in 2007). The dominating years are those with the value of CL pace advance rate by EL above the unit (positive assessment). The third phase – from 2012, PL reveals the downward trend with decrease in EL and continuous increase in CL.

(negative assessment). In the analysed period (1990–2017), EL factor showed really strong and statistically significant correlation with PL measure ($r=0.91$, $p\text{-value}=0.00...<\alpha=0.05$) (Fig. 7, left panel).

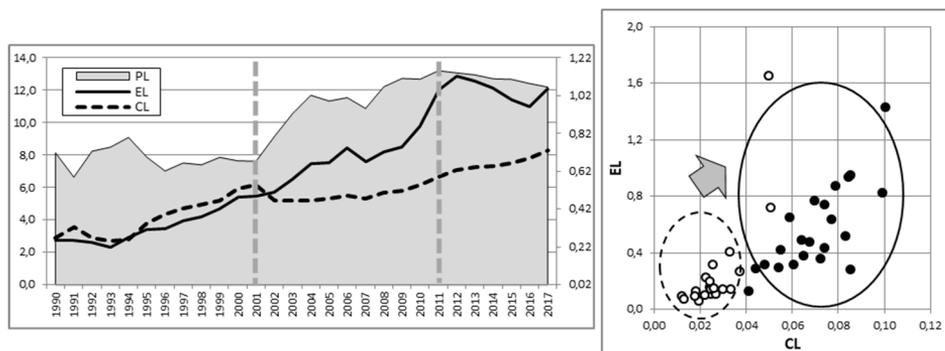


Figure 7. Productivity factors of PL of manufacturing mesostructure in 1990–2017 (left panel) and the change of its objects positions (right panel)

Notes: measure values given as standardised. PL – Productivity of labour, EL – Unit labour efficiency, CL – Unit labour cost (right axis).

Source: same as Figure 6.

The mesostructure of the transformation beginning (in the scope of productivity PL) is the collection of objects being clearly dense. The results of observations in 2017 draw attention to diffusion of mesostructure objects – more in regard to EL than CL (Fig. 7, right panel). The access to this image is described by the way of mesostructure focal point being divided into four characteristic fragments: 1990–2001 – close to the proportional changes of EL and CL, 2002–2006 – increase of EL and stabilisation CL, 2008–2012 – changes of EL and CL being close to proportional ones again, 2013–2017 – increase of CL with the decrease of EL. The most advantageous and intensive period were years between 2001–2006 in the second phase of changes (before and at the beginning of entering into the EU). However, the third phase is rather the period of clearly non-beneficial changes.

There was an increase in density factor value in 2004–2012 (DF) – the objects started to move away from each other in regard to the faster increase of EL factor than CL. After 2012, the mesostructure started to become more dense. The performed test of time series measure correlation of DF and PL showed the strong and statistically significant correlation ($r=0.81$, $p\text{-value}=0.00...<\alpha=0.05$) – the increase of objects diffusion DF occurred jointly with the increase of productivity PL.

The way of manufacturing mesostructure transformations and variation of its objects

H1: Development of manufacturing mesostructure is characterised by phase, objects diffusion and increasing permanency of their rank positions.

The results of long-term research conducted in 1990–2017 let me distinguish clearly the phases of mesostructure changes from the point of view of intensity of competitiveness measure value changes (CM):

1. 1990–1999 – low increase of CM with relatively small fluctuations of PE and greater of PL (decrease after 1994) and concentration of mesostructure at the end of phase,
2. 2000–2006 – high upward trend (until 2004) and further lower intensity of changes CM, its components and DF,
3. 2007–2017 – leap increase of diffusion and stable increase of CM and PE with the decrease of PL from 2012 and stabilization of DF.

The second phase of changes was the most dynamic and advantageous for mesostructure with its strong influence of PL factor at the beginning (the period before and at the beginning of joining EU) and slowing down the CM growth path in 2007–2008. From the half of third phase, with the decrease of PL factor value, PE factor constituted foundation for the increase of CM. The additional statement appropriate for years 1990–2017 is greater amplitude of fluctuations of PL factor rather than PE despite the fact that the second one constitutes the channel connecting the stream of mesostructure exchange with the international environment, defined commonly as more changeable (Fig. 8).

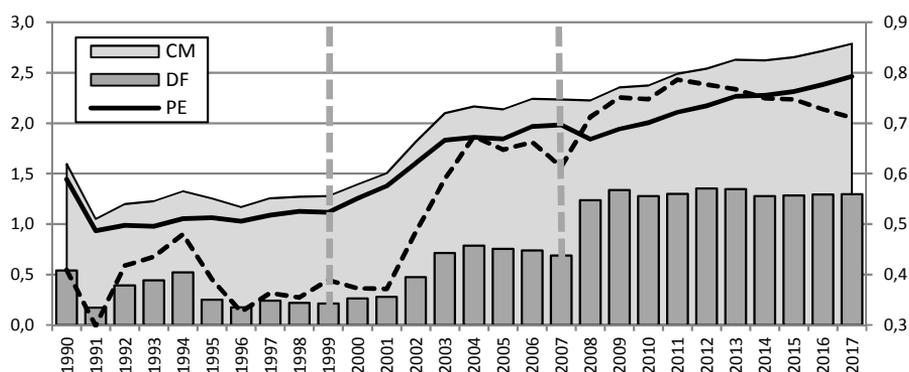


Figure 8. Competitiveness measure (CM), its components and concentration (DF) of manufacturing mesostructure in 1990–2017

Notes: measure values given as standardised. CM – Competitiveness measure, DF – density factor, PE – Productivity of cost (according to export), PL – Productivity of labour (right axis).

Source: same as Figure 6.

The performed test of correlation of time series CM and DF indicated very strong and statistically significant dependency ($r=0.94$, $p\text{-value}=0.00\dots<\alpha=0.05$) – the increase of mesostructure objects diffusion (objects moved away from each other differentiating) referred to the increase of competitiveness.

The image of mesostructure at the beginning and end of analysed period is visible by transition of objects along the PE axis rather than PL and their greater diffusion (Fig 9, left panel). The way of CM focal point indicates the multiple turns from 1998 and the marked regression curve¹⁶ describes the way of changes and indicates those being the most beneficial in 1999–2011. After that period, the regression curve is falling to the PE factor and the way of focal point is showing its increasing influence and decreasing influence of PL (Fig. 9, right panel).

¹⁶ Cubic polynomial – very good match, $R^2=0.93$.

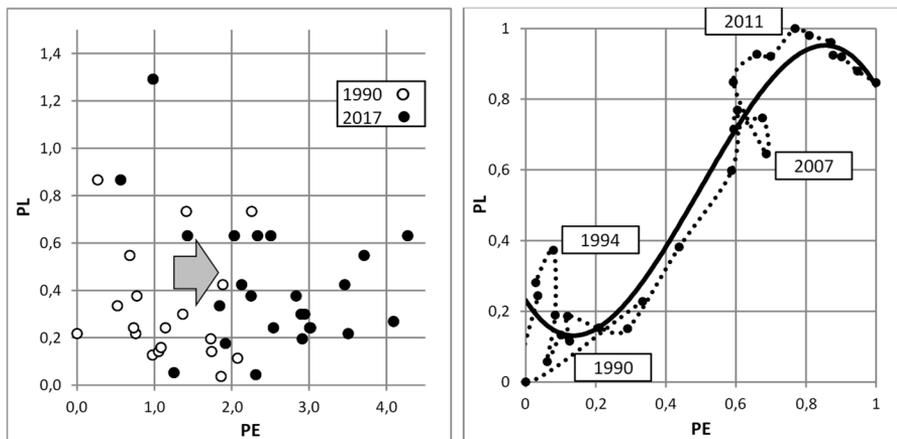


Figure 9. Distribution of manufacturing mesostructure objects determined by the factors of competitiveness measure (CM) in 1990 and 2017 (left panel) and the way of focal point (right panel)

Notes: the way of focal point with the use of unitarized values.

PE – Productivity of cost (according to export), PL – Productivity of labour.

Source: same as Figure 6.

Analysing the obtained results of mesostructure objects ranking, their assessment highlights the division of years between 1990–2017 into three periods: first one (1990–1999) characterised by the visible changes of ranking positions (average variation of ranking position – VRP=2.8), second one (2000–2006) is the image of mesostructure of weakening transfer of objects on the ranking lists obtaining gradually the features of permanency (VRP=1.7), third one (2007–2017) is the mesostructure exhibiting the negligible variation – presenting even more clearly the concentration areas of objects having the high permanency (VRP=1.5), especially on the highest and lowest ranking positions (Fig. 10).

The identified property of mesostructure in the form of its increasing permanency finds its reflection in classification of objects from the point of view of average ranking position and its variation. In the first period (years 1990–1999) 31.8% objects were characterised by over average variation of average ranking position (second and fourth group), however in the third period (years 2007–2017) there were only 4.2% of such objects and 45.8% belonged to the first one, and a half (50.0%) belonged to the third group (Fig. 11).

Due to the conducted analysis of mesostructure objects (PKD divisions) formed between 2007–2017, I can enumerate firstly those of over average competitive position and low variation (8 objects), including: manufacturing and processing of coking coal and petroleum products, manufacturing cars, computers, electronic software and optic devices, manufacturing of electronic devices and manufacturing of furniture.

Final ranking positions are allocated to, among others, manufacturing of juice, manufacturing of paper and paper products, manufacturing of metals, production of food products, production of basic pharmaceutical substances and medicines.

PKD Division	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	PKD Division	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
23	2	1	1	1	1	3	4	4	5	5	4	4	2	1	1	1	1	19	1	1	1	1	1	1	1	1	1	1	
34	20	20	14	7	7	8	6	9	7	7	3	2	1	2	2	2	2	29	2	2	2	2	2	2	2	2	2	2	
32	15	22	21	19	16	10	5	2	1	1	1	1	3	3	3	3	3	26	3	4	4	4	3	3	6	5	3	3	
16	12	10	13	9	9	13	19	20	15	17	20	20	7	8	4	5	4	30	4	5	5	6	6	6	3	4	6	4	
36	10	4	4	4	3	2	2	3	3	3	5	3	6	4	5	4	5	27	6	3	3	3	5	5	5	6	5	6	
35	3	2	2	2	2	1	1	1	2	2	2	5	4	6	7	6	6	31	7	6	7	5	4	4	4	3	4	5	
31	6	6	6	8	11	7	8	6	6	6	6	6	6	5	5	6	7	15	10	9	12	11	8	9	8	8	8	10	
29	9	13	11	13	15	17	17	15	16	18	16	16	15	14	14	12	8	28	8	8	8	8	9	11	11	11	11	10	
20	11	9	7	6	6	12	11	11	9	9	8	8	8	10	8	8	9	32	9	13	9	15	11	7	9	7	7	9	
25	17	18	16	16	14	18	15	14	14	15	13	12	11	13	12	11	10	22	14	10	10	9	10	10	7	9	10	9	
21	21	11	9	11	10	6	7	10	8	10	9	9	12	11	9	10	11	13	16	14	13	13	7	8	10	10	9	12	
27	8	5	5	5	5	9	12	8	11	11	12	13	17	15	10	13	12	12	5	7	6	7	12	12	13	19	19	21	
28	13	12	10	14	18	15	13	13	13	12	11	10	13	12	13	9	13	20	12	11	14	12	14	13	14	12	13	13	14
18	7	7	3	3	4	4	3	5	4	4	7	7	9	9	11	14	14	24	11	12	17	14	13	14	15	13	12	11	12
24	4	3	8	10	8	11	10	12	12	13	10	14	16	16	16	15	15	25	18	17	15	17	16	15	12	14	14	13	
17	18	19	19	18	20	20	20	19	17	16	15	15	14	17	15	16	16	17	13	15	11	10	15	17	17	16	15	18	18
19	16	15	15	20	19	14	14	16	18	14	14	11	18	18	17	17	17	14	17	18	18	18	17	16	16	15	16	15	15
33	5	16	18	21	21	21	21	21	21	21	21	21	21	19	18	18	18	16	15	16	16	16	19	18	18	18	18	16	16
26	19	17	17	15	13	16	16	17	20	20	18	18	20	20	20	20	19	21	20	20	19	18	19	19	17	17	17	17	17
15	14	14	12	12	19	18	18	19	19	19	19	19	19	21	19	19	20	18	19	22	22	21	20	22	20	20	20	20	19
30	1	8	20	17	17	5	9	7	10	8	17	17	10	7	21	21	21	10	23	21	21	20	20	21	23	22	22	22	20
22	22	21	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	11	22	19	20	23	21	21	23	22	23	23	24
																		33	24	24	24	24	24	24	24	24	24	24	23

Figure 10. Ranges determined for the objects of manufacturing mesostructured in regard to the competitiveness measure (CM) in 1990–2017

Notes: objects included into the last six are marked with dark grey, and light grey – first six objects of mesostructure. From 2007, there is a new classification of PKD divisions (mesostructure objects). Source: same as Figure 6.

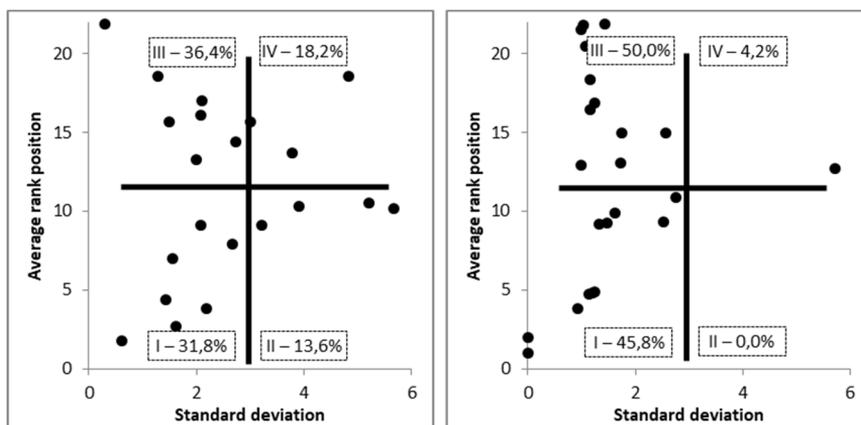


Figure 11. PKD divisions of manufacturing mesostructure in regard to the average ranking position of value of competitiveness measure (CM) and its variation in 1990–1999 (left panel) and 2007–2017 (right panel)

Source: same as Figure 6.

The detailed analysis in regard to the object of activity can be the subject of further multidimensional research.

H2: Factor of manufacturing mesostructure competitiveness growth is based on export rather than labour productivity.

Referring to the aforementioned results of research concerning the features of manufacturing mesostructure in the scope of phase, diffusion of objects and permanency of ranking positions, I could sublime the results concerning the impact of defined factors on competitiveness – i.e. productivity of labour cost (PL) and productivity of cost in regard to export (PE).

The average pace of PE factor changes in 1990–2017 was highly lower (2.0%) than the PL factor (2.1%), but the dominance of pace of the first one took place in 17 per 27 tested annual periods (63.0%). The cause–effect research in the dynamic regard (determinism attitude, logarithm method) revealed that the factor of mesostructure competitiveness growth correlated with diffusion of its objects (that earlier was proved) is in the scope of productivity in greater degree than on the side of export (PE – 74.5%) than of labour (PL – 25.5%).

The mesostructure of economics shaped in the process of transformation is based mainly on development of export (exogenic factor) and its effectiveness using the comparative difference in cost, including in the cost of labour. However productiveness of labour is low and does not prove the strength of mesostructure. Moreover, recent years have brought weakening of this factor, subordinating the mesostructure even more from export activity. Endogenic factor of competitiveness growth has been neglected then.

Profiles of manufacturing submesostructures

H3: Profiles of manufacturing submesostructures according to enterprise size classes are different.

The determination of profiles of tested mesostructure was conducted with the application of criterion of enterprise size classes creating its objects (PKD divisions), for the period guaranteeing the comparison of classification of run activity (PKD 2007, years 2007–2017, 3rd phase of changes).

The level of competitiveness (CM) for the submesostructure of medium size enterprises increased in years 2007–2017 by 25.0%, as compared with 16.3% for large entities, and in the smallest degree for small enterprises (6.3%). The average annual dynamics of changes (STZ) also distinguishes the medium enterprises (STZ respectively: 2.26%, 1.52% and 0.62%). The progressive changes in submesostructures revealed a strong and statistically significant correlation with the competitiveness changes for the entirety of manufacturing enterprises in case of medium and large ones ($r=0.94$ =0.94, p -value=0.00... $<\alpha=0.05$). This relation was not statistically significant for small-sized enterprises. They are characterized, though, by the highest amplitude of fluctuations in CM measurement and a strong reaction to economic slowdown in 2008–2009 and 2012–2013 (Fig. 12, left panel).

In regard to relation changes in reference to CM value in general, the medium-sized enterprises revealed the improvement by 8.1%, large ones by 0.5%, and small entities recorded worsening by 8.1%. The shares of enterprises sizes shaped in 2017 are almost equivalent with a slight advantage of large-sized enterprises (small-sized 30.3%, medium-sized 33.1%, large-sized 36.6%) (Fig. 12, right panel).

Manufacturing mesostructure reveals the varied profiles for the classes of enterprise sizes regarding the impact of components of competitive measure. PE is permanent and progressive factor of competitiveness for submesostructure of medium- and large-sized enterprises. The stability of this factor is greater for LSE as well as MSE (standard deviation respectively: 0.18 and 0.23). The level of correlation of PE and CM is though really

strong and statistically significant (respectively: $r=0.99$, $=0.95$, $p\text{-value}=0.00\dots<\alpha=0.05$). The other determination concerns decreasing value and strength of impact of PL factor – turning point for the LSE occurred in 2011 and for MSE in 2013. In both cases, the level of PL in 2017 returned to the one from 2008/2009, which shall be negatively assessed.

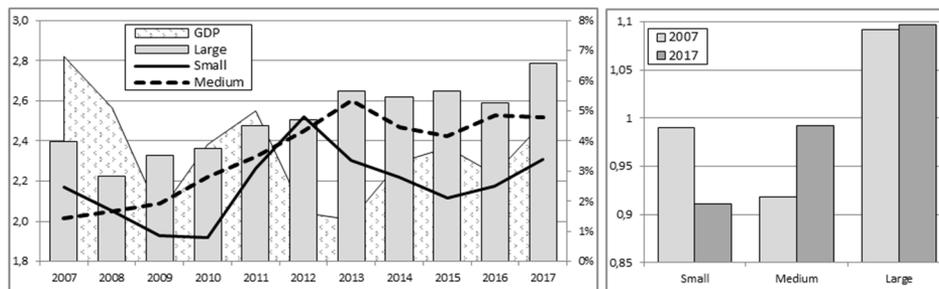


Figure 12. Competitiveness measure (CM) in reference to enterprise size classes of manufacturing mesostructure in 2007–2017 (left panel) and the changes of proportions between them (right panel)

Source: same as Figure 6.

Therefore, the changes in submesostructure of SSE are the significant fluctuations of PL and PE levels. For the last one, the progressive trendline can be marked, but the progressive trendline for PL, apart from the peak in 2012, is not visible. In this class of enterprises, PE factor reveals its strong and statistically significant correlation with changes of MR values as well ($r=0.82$, $p\text{-value}=0.002<\alpha=0.05$) (Fig. 13).

During the analysis of three submesostructures profiles regarding their average ranking position and fluctuations for every PKD division referring to the classes of enterprise sizes, I presented in my research that they are not similar. In 15 per 24 cases, the average ranking position for the same PKD divisions of MSE submesostructure was higher than in the SSE (62.5%). For the relation of large–medium enterprises, it concerned 13/24 cases, i.e. 54.2%.

The aforementioned notices can be described additionally by correlation measure – it equalled as follows for the pairs for medium rank position: small–medium enterprises, $r=0.82$ and medium–large– $r=0.68$ ($p\text{-value}=0.00\dots<\alpha=0.05$). For the pair of small–large, the correlation was average and statistically significant ($r=0.46$, $p\text{-value}=0.024<\alpha=0.05$).

The submesostructures are definitely different in ranking fluctuations – for small enterprises it equals 3.36, for medium 2.32, and for large 1.44. Moreover in 18 per 24 cases, ranking fluctuations of the same PKD divisions of medium enterprises submesostructure was lower than in small ones (75.0%), and in large comparing to medium ones in 17 per 24 (70.8%) (Fig. 14).

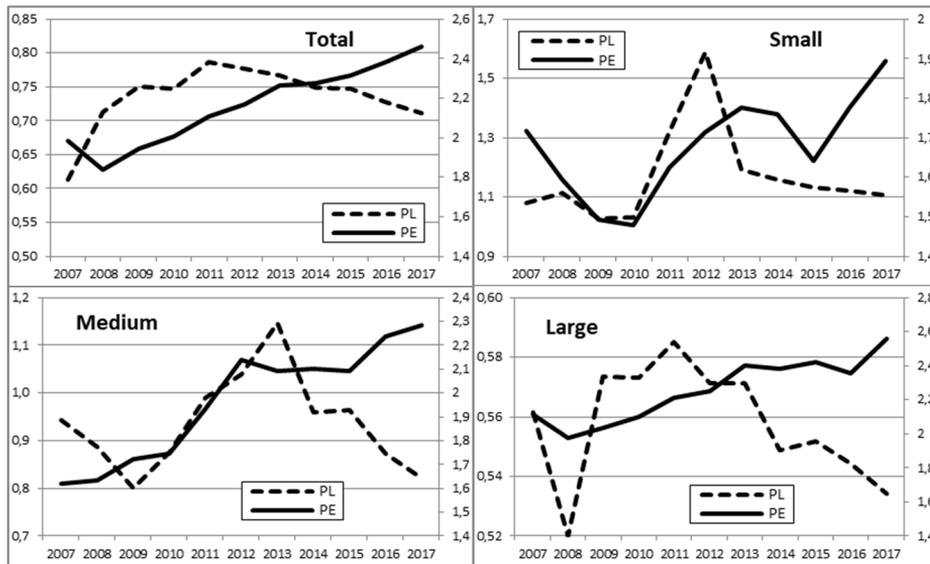


Figure 13. Components of competitiveness measure (CM) of manufacturing mesostructure in 2007–2017 in regard to the classes of enterprise sizes

Notes: PE – Productivity of export (according to export), PL – Productivity of labour.

Source: same as Figure 6.

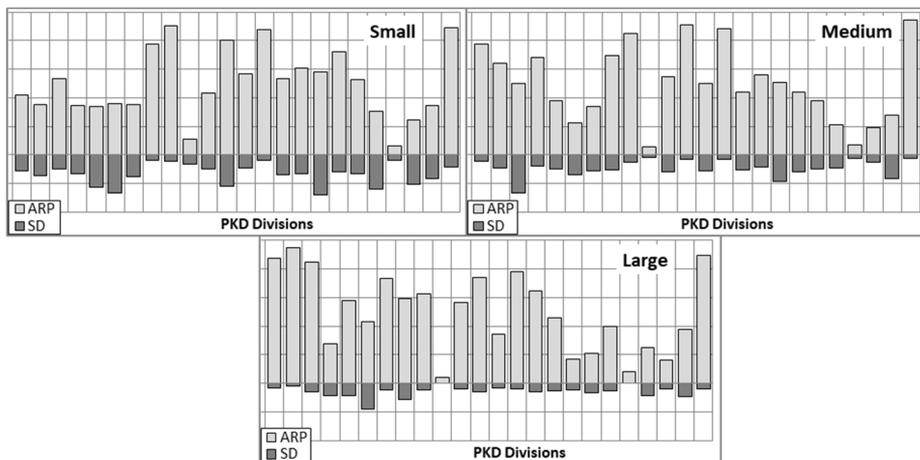


Figure 14. Profiles of PKD Divisions of manufacturing mesostructure in regard to the average rank position (ARP) and its variation (SD) concerning the competitiveness measure (CM) in 2007–2017

Source: same as Figure 6.

My application of normative patterns for PKD divisions, differentiating simultaneously in regard to the rank position and its variation (in regard to CM measure), enabled me to compare the compliance of profiles of analysed submesostructures. This compliance occurred for

the pairs of small–medium in case of 10 PKD divisions (41.7%), medium–large in 15 divisions (62.5%), small–large in 8 cases (33.3%). Therefore the highest similarity exists between the mesostructures of medium– and large–sized enterprises (Fig. 15, left panel).

PKD Division	Small	Medium	Large
10	I	III	III
11	II	III	III
12	III	IV	III
13	II	III	I
14	II	I	III
15	II	II	II
16	II	I	III
17	III	III	III
18	III	III	III
19	I	I	I
20	I	III	III
21	IV	III	III
22	III	III	I
23	III	III	III
24	IV	I	III
25	IV	III	I
26	IV	IV	I
27	III	I	I
28	IV	I	I
29	II	I	I
30	I	I	I
31	II	I	I
32	II	II	I
33	III	III	III

III		IV	
Small	29,2%	20,8%	Small
Medium	45,8%	8,3%	Medium
Large	50,0%	0,0%	Large
I		II	
Small	16,7%	33,3%	Small
Medium	37,5%	8,3%	Medium
Large	45,8%	4,2%	Large

Figure 15. Profiles of PKD Divisions of manufacturing mesostructure in regard to the normative patterns concerning the competitiveness measurement (CM) in 2007–2017

Source: same as Figure 6.

Moreover, the structure of PKD divisions according to normative patterns (the number of PKD divisions included into one particular model) indicates also higher similarity of submesostructure of medium and large enterprises (Fig. 15, right panel).

CONCLUSION

The objective of this article and own research was the assessment of competitiveness and identification of manufacturing mesostructure characteristics of Polish economy. The analysis and assessment included density of mesostructure objects, position of focal point and its way. The classification of objects was also conducted. It was performed with the use of defined normative patterns. During the survey, the test of similarity level of manufacturing mesostructure profiles was conducted with the application of average rank position, variability of this position and normative patterns.

The results of the research resulted in numerous detailed findings presented in the article in the part devoted to the discussion of the obtained research results, including a positive verification of the research hypotheses. These conclusions can be summarised as follows:

1. The mesostructure change phases from the point of view of changes intensity of competitiveness measurement (CM) are years 1990–1999, 2000–2006 and 2007–2017. The most intensive one was phase 2 (before and at the beginning of entering into the EU);
2. There is a very strong and statistically significant correlation of time series of measures CM and DF. The increase in competitiveness (CM) was related to the increase in mesostructure objects diffusion (DF) – the objects were more and more various: more in the sense of cost export productivity than labour productivity;
3. Variation of ranking positions of mesostructure objects decreased by almost half – mesostructure absorbed the features of permanency. The shape of regression curve divides the way of mesostructure focal point into the fragments in the way being close to phases distinguished in regard to the intensity of competitiveness changes (CM);
4. In nearly 2/3 out of 28 tested annual periods, the pace of PE factor changes was higher than of factor PL and the growth of mesostructure competitiveness in 3/4 is on the side of export factor (PE) and only in 1/4 on the side of labour factor (PL) which creates the negative assessment;
5. PE is permanent and progressive factor of competitiveness for the submesostructure of MSE and LSE. From the half of third phase of transitions, the influence of PL factor has become weaker;
6. In over a half of cases (62,5%), the average ranking position of the same PKD division (objects) of submesostructure of MSE was higher than of SSE. For the relation of large–medium enterprises, it took place in 54.2% of cases. Concerning the variation of ranking position, the same regularity occur;
7. Concerning the normative patterns of changes, the similarity between submesostructure of medium and large enterprises is relatively weak (62.5%). The level of similarity is of 1/3 lower for the submesostructure of small and medium–size enterprises.

Summarizing the results of the assessment of competitiveness, its factors and their relationships presented above, the following key properties of manufacturing mesostructure of the Polish economy can be pointed out:

1. Development of manufacturing mesostructure is characterised by phase, objects diffusion and increasing permanency of their rank positions,
2. Factor of manufacturing mesostructure competitiveness growth is based on export rather than labour productivity,
3. Profiles of manufacturing submesostructures according to enterprise size classes are different.

The research whose results are presented in the article constitute an important contribution to the development of knowledge of the essence, course and factors shaping the competitiveness at the mesostructural level. This level of this research, although desirable, is rarely present due to the necessary broad object and subject scope. Own research was based on unique data concerning the whole group of manufacturing enterprises functioning in Poland (over 14,000).

For each research study, it is necessary to indicate the limitations in terms of universality of the conclusions drawn from it. In this respect, it should be noted that an undisputed restriction is the concentration of competitiveness research on manufacturing mesostructure on one transforming Central European country, i.e. Poland. However, it is a country which is at the forefront of countries characterised by high, positive effects of

transformation. Its great potential, with its structure similar to that of the leading transformation countries such as the Czech Republic, Estonia and Slovakia, may be a distinguishing feature of this group of countries in terms of the competitiveness of manufacturing mesostructure. Of course, if there are conditions to obtain comparable data for other countries, it will be possible to conduct a detailed comparative analysis.

On the other hand, there are no limitations as to the universality of applications at the level of the Polish economy. This is due to the increased uniqueness of the surveys carried out – they cover all entities covered by official statistics and classified as manufacturing mesostructure (therefore they are not surveys carried out on a research sample).

This is also a feature of the high added value of the research carried out – it is the first of its kind in Poland. The construction of an analytical model using a combination of factors and sub-measures, which provides a synthetic measure of competitiveness, should be raised as another important added value. In this context, the factor analysis of the competitiveness and variability of the mesostructure and its profiling by size classes of enterprises have a particular value. This is the first such model to be used in the assessment of the competitiveness at the mesoeconomic level of the countries undergoing transformation in Central Europe.

The value of research is also enhanced by a broader perspective on understanding and assessing competitiveness. The research was presented in a broader context of assessment of macroeconomic competitiveness of the Polish economy and the extent to which one of the objectives of its transformation has been achieved, which broadens the context of understanding this complex economic category.

My research and the extended scope of information, resulting from the used data base of full group of enterprises, open the way towards further and broader research exploration of objects and their groups as well as other structures, i.e. PKD sections, or PKD classes. Each group or single object can undergo the exploratory factor analysis of competitiveness, which can constitute the subject of further research.

Thanks to the current access to data, this direction of further research is appropriate for the mesostructure of the Polish economy. If the conditions for obtaining comparable data for other countries are met, it will be possible to conduct a detailed comparative analysis first of all for Central European countries – CEB and DEE. As a further step, it is possible to carry out a comparative analysis of the transforming countries (new EU countries) and the leading EU countries (EU-15) in the field of mesostructure characteristics and factors shaping its competitiveness.

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City lab as a platform for implementing urban innovation. The role of companies

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Abstract

This article has two aims. The first one is to show city lab as a specific innovation management platform in urban areas, whereas the other is to present the reasons why companies should get involved in it. The article begins by showing how the perception of innovation evolved from a strictly technological notion to an approach associated with satisfying social needs (social and urban innovation). Next, the understanding of city lab will be presented, taking into account the well-known living lab concept. Subsequently, based on the quadruple helix concept, city lab actors will be discussed (public authorities, enterprises, city users, scientific units and intermediaries), as well as their roles, against the background of public-private-people partnerships (4P). Considering these observations, similarities and differences between living lab and city lab will be identified. By way of conclusion, the article offers a handful of reasons why companies, especially multinational ones, should get involved in city lab initiatives.

Keywords: city lab, living lab, innovation, multinational companies, social innovation, urban innovation

JEL codes: O31, L26

INTRODUCTION

The issue of living labs is widely known in the literature. This article starts with a comparison of the concept with that of the city lab and moves on to the participation of companies in this kind of initiatives. In this case, company is not the most important actor but a participant. A discussion of the reasons why and in what way companies should become involved in the city lab will constitute the main part of the article.¹

EVOLUTION OF THE UNDERSTANDING OF INNOVATION

In recent years, the notion of innovation has come to be interpreted in the following terms. It is no longer viewed as reflective only of technological change past (Kopyciński 2017). Nowadays, besides those listed in the Oslo Manual (OECD 2005, p. 18, based on Schumpeter 1911), namely product, process, organizational and marketing innovation, they also include social innovation (e.g. Murray, Caulier-Grice, Mulgan 2010, BEPA 2011, OECD 2012, Mulgan 2012). In this article the author wishes to invoke social innovation theory. One of the first people who noticed the importance of social innovation for development was W. F. Ogburn, who identified a cultural lag associated with the failure to adapt cultural changes to technical ones (Ogburn 1966). In this approach, social innovations will contribute to the fulfilment of such a lag. According to the definition of social innovations adopted in the TEPSI project, “social innovations are new solutions (products, services, models, markets, processes etc.) that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships and better use of assets and resources. In other words, social innovations are both good for society and enhance society’s capacity to act” (The Young Foundation 2012, p. 18). In this approach, social innovations are characterized by the following features: cross-sectorality, open and collaborative approach, grassroots and bottom-up activities, pro-sumption and co-production, mutualism, creation of new roles and relationships, better use of assets and resources, developing assets and capabilities (The Young Foundation 2012, p. 21). Regardless of the definition adopted, when compared with other classifications of innovations, social innovations are meant to meet the needs of the largest group of users, whereas the actual kind of innovation implemented (technological / non-technological) becomes of secondary importance.

But the evolution in the understanding of innovation is not only about perceiving them in social terms. Innovation is also being associated with a broad spectrum of actors (open innovation, see Chesbrough, Vanhaverbeke, West 2006) or even with future users in developing solutions that meet their expectations (user innovation, democratizing innovation, see E. von Hippel; living labs – see World Bank 2014; collaborative innovation – see J. Torfing 2016). In this context, two different approaches to classifying innovations can be identified (see Figure 1). In the first one, the kind of solution is paramount (usually in an enterprise or for its benefit), and the other emphasizes the importance of collectivity at various stages of the innovation process (creation, testing,

¹ In this article the author will use the term ‘city users’ instead of ‘city dwellers.’ The former concept is broader and encompasses both long-term and temporary residents as well as visitors, irrespective of the purpose of their stay in the city (e.g. commuters, tourists). In other words, city users care primarily about city infrastructure.

implementation, monitoring). In the latter case, the innovation process does not necessarily have to be enterprise-related (e.g. changes introduced in a city as part of the city lab, which will be discussed later in the article). It should be emphasized that these two orders are not mutually exclusive, e.g. the solution created in the open innovation formula can be classified as one of the types of innovations in the OECD classification.

The evolution of the understanding of innovation can be analysed from a purely technological point of view, or as a social phenomenon, where meaning takes on such qualities as co-operation, co-creation, mutual learning, or co-sharing. Such processes occur in varying degrees, but the author of this article would like to focus on urban areas. This article focuses on a specific type of social innovation – urban innovation created in order to meet the needs of the largest possible group of city users.¹ Urban innovation can be considered as a specific type of social innovation dedicated to the city area, the aim of which is to fulfil the expectations of city users.

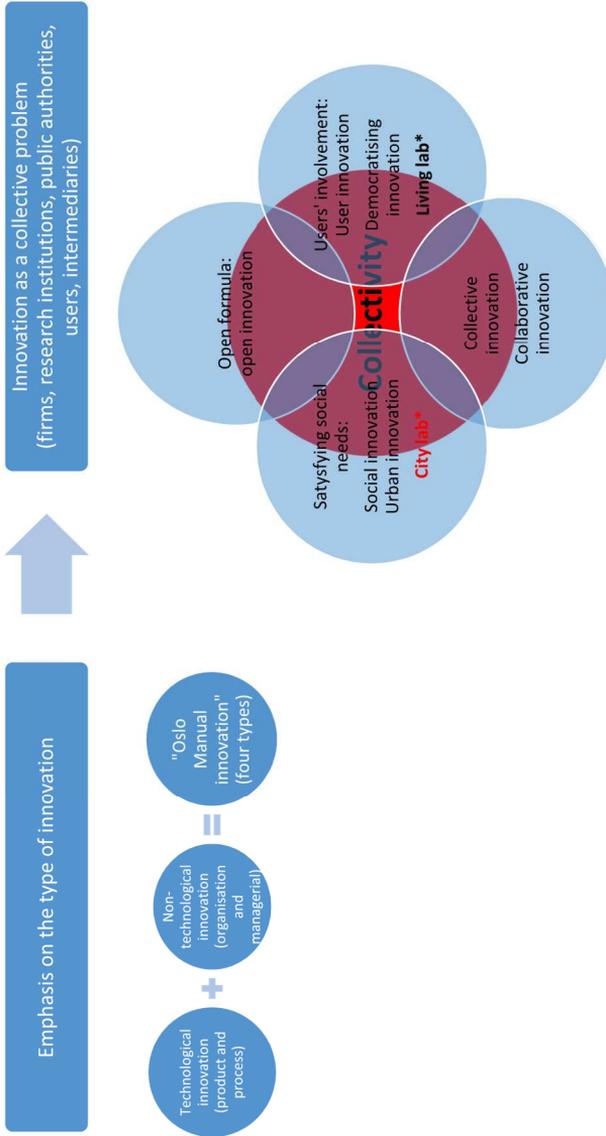
This way of thinking is reflected in the concept of smart city, where technological innovation is one of the tools (but by no means the only one) for social, environmental and cultural development of cities (more about smart city concept, see e.g. Deakin 2015). The term ‘smart city,’ meaning, among others, cooperation of various actors, is associated with the notion of ‘city lab’ to be discussed further in this article.

UNDERSTANDING THE CONCEPTS OF ‘LIVING LAB’ AND ‘CITY LAB’

Living lab

One of the approaches to engaging users in designing new solutions is called living lab. It was first proposed by W. Mitchell, who understood it as a way of actively involving the city residents in planning the development of their city (Mitchell 2005). This concept can be understood broadly, not only in terms of city management, but also in terms of innovative processes in enterprises. Living labs can be understood as a platform for implementing the open innovation concept (Paskaleva 2015, p. 119). In this sense Nyström et al. (2014, p. 483) claim that the living lab is a network of open innovation characterized by openness and user involvement. In this way, ideas for the development and implementation of innovative enterprise solutions are derived from the external environment. These processes occur in real-life environments, not in closed research laboratories (Almirall 2009). Nyström et al. (2014, p. 484) justify the networked nature of living lab by the voluntary cooperation of entities having similar roles. Users are particularly important, being both the subject and the object in innovative processes, and acting as co-creators, testers and co-producers (Ballon, Pierson, & Delaere, 2005).

The objective and subjective definition was proposed by M. Westerlund and S. Leminen (2011, p. 20), who observed that living labs “... are physical regions or virtual realities where stakeholders form public-private-people partnerships (4Ps) of firms, public agencies, universities, institutes, and users all collaborating for creation, prototyping, validating, and testing of new technologies, services, products and systems in real-life contexts.” The main players in the innovation process are the users, who are not only the source of information, but also the testers, developers and designers of innovation (Nyström et al., 2014, p. 483).



* City lab and living lab could not be treated as a type of innovation but as specific platforms to implement innovation where, among others, the following features are highlighted: satisfying social needs (city lab) and users' involvement (living lab). These two concepts are included in the above statement because of these features.

Figure 1. Evolution of defining innovation
Source: own elaboration.

Considering the above, we can say that a living lab is a voluntary cooperation network involving various entities – enterprises, research units, public entities, and users, the last ones being the most important. They participate in the design, development and implementation of innovative solutions based on everyday life experiences. Such activities can be classified as open innovations.

City lab

The concept of living lab appears to describe well the phenomenon of open innovation from the company perspective. However, it does not fully reflect the process of social (urban) innovation. In the latter case, the same actors are involved as in the living lab, but they have different roles. In the case of solving urban problems, they have a public purpose; the city decision makers (not the company management) are the primary decision-makers, with the participation of city users, companies, and research units. There is no single term for distinguishing the phrase that means solving urban problems from this reflecting the business ones. The terms ‘urban living lab,’ ‘urban lab,’ or ‘city lab’ (see e.g. Scholl and Kemp 2016, Voytenko Palgan et al. 2016 or Urb@exp project: <http://www.urbanexp.eu> Accessed August 2017) may have slightly different meanings. In this paper the author will use the term ‘city lab’ to emphasize the particular role of public authorities (cf. Scholl and Kemp 2016, p. 90). The urban lab can be understood as ‘... projects in which local authorities and other stakeholders want to learn about and be involved in new ways of dealing with urban challenges such as the development of a polluted site and inflexible regulations’ (Urb@exp project: <http://www.urbanexp.eu>, accessed August 2017). As is the case with living labs, these are real-life applications of open innovation, where the importance of experimentation involving users, co-design and learning is underscored (Urb@exp project: <http://www.urbanexp.eu>, accessed August 2017). It is therefore a specific type of lab, where the activities are initiated and participated in by city authorities. The activities are characterised by experimentation and user involvement (Scholl and Kemp 2016, p. 89).

The attention to the occurrence of similar wording should be paid. Under the auspices of the European Commission Joint Programming Initiative on Urban Europe (JPI Urban Europe), an urban city lab was defined as “a forum for innovation, applied to the development of new products, systems, services, and processes, employing working methods to integrate people into the entire development process as users and co-creators, to explore, examine, experiment, test and evaluate new ideas, scenarios, processes, systems, concepts and creative solutions in complex and real contexts” (JPI Urban Europe 2013). The development of the concept of urban living lab can be inferred from emphasizing the importance of a public purpose and the role of public authorities (e.g. Juujärvi and Pessa 2013). A proposal to delimit the notions of city living lab and city lab was also put forward. Although both concepts belong to “the big lab family” (Scholl et al. 2017, p. 11), Scholl and Kemp (2016, p. 90) call the city lab a special type of urban city lab, with a focus on developing ideas, and using urban development vision and experimentation as a new form of urban planning. City lab is different from the urban city lab for the following reasons (Scholl and Kemp 2016, p. 90):

1. Its purpose is not only to improve products and services, but also to make changes to the planning processes.

2. It operates with a significant involvement of municipal authorities.
3. Less emphasis is placed on technological solutions and scientific expertise.

At the same time, living labs are a major inspiration for city labs, focusing on user-centred innovation and engaging users in the functioning of the city (Scholl and Kemp 2016, p. 90).

Scholl and Kemp (2016, pp. 99-100) mention the following features of city labs:

1. **Hybrid organizational forms** from the frontier of local administration and society, and “shared ownership of a city lab by the municipality and other stakeholders.” This formula allows to partially bypass the bureaucratic logic of the functioning of local authorities, which is essential for the emergence of innovative solutions. It integrates various urban environments around **public authorities, academics, entrepreneurs and residents**.
2. Place of **experimentation with new forms of governance** – inspiration for public authorities to change the processes of city management.
3. **Multi-stakeholder settings** with the specific role of local authorities. This arrangement responds to increasingly complex urban challenges, which the local administration is unable to resolve on its own.
4. Using **co-creation** when looking for new solutions (experimenting). Local authorities usually do not engage in these experiments, but provide (and modify in the learning process) procedures which may make it easier for experiments to be successfully implemented in the city.
5. Solve complex problems in a **multi-disciplinary way**, using the knowledge of many disciplines.

In further discussion, the term ‘city lab’ (see: Scholl and Kemp (2016)) will be used to denote a set of actions initiated by public authorities, aimed at long-term urban planning (public purpose). They are implemented in the form of open innovation, through experimentation in real-life context of different entities (primarily city users), where the city authorities play a special role. This approach will be further developed in next sections, beginning with one of the concepts of co-operation between actors involved in public affairs management, known as 4P. Beforehand, however, in order to better understand the city lab as a concept, two case studies will be presented.

CITY LAB – CASE STUDIES

Recreation and leisure area in Krakow

The authorities of Krakow, in the wake of the 2007/08 crisis, sold part of the city centre’s green area with the permission to construct an office building. After several years, the development went ahead, which triggered a strong negative reaction of the city residents. In order to make up for it, the developer proposed to design a green belt and rest area between the busy street and office building, with the option to include other areas in the project (a total of approx. 5 hectares). Previously, it was a very unfriendly area for the residents, performing mainly a transit function, separated by acoustic screens and too small to spend the free time.

The project began in 2015. It proved to be the first one in the city, which involved extensive consultations and workshops with the participation of residents, the representatives of the developer, architectural companies, city authorities, non-governmental organizations, as well as planners, and academics. In the first stage, residents could submit their ideas with the help and cooperation of other participants in terms of design. These ideas were evaluated by a Danish urban planner and architect Jan Gehl. Later, residents voted on the best project, which is currently being implemented. As of June 2018, one part was completed (in the vicinity of the new office building), and further work is planned as part of later investments in this area.

Malmö Innovation Arena – Climathon

Malmö Innovation Arena has been operating in the city for several years. Originally, it focused on civil servants from various municipal departments, companies and researchers who supported sustainable city development. Now it also involves NGOs and city residents, concentrating generally on housing shortage. It aims to support fast and sustainable construction processes in the city. A sample attempt to involve residents and representatives of NGOs in the platform's work is Climathon, a 24-hour event, where participants jointly engaged in addressing issues related to the management of storm water and ways of organizing temporary use of vacant shops. Climathon was organised by various city departments and housing companies in collaboration with the Arena team. The winning proposal received support from a business developer, so it could be further developed and prototyped. Climathon was open to everyone, but mainly students took part – it failed to attract older people. Arena team have also tried to invite NGOs, but this cannot be called a success, because it was difficult to communicate and understand different expectation (Scholl et al., 2017, pp. 64-65).

PUBLIC-PRIVATE-PEOPLE PARTNERSHIP („4P”)

Emphasizing the importance of users in urban management processes is reflected in the concepts of partnerships which share certain tasks. One approach to city management involves the use of the public-private-people partnership concept (4P), which assumes that for different ways of collaborating and sharing public and private actors in the creation of products, services or policies (public-private partnerships), also members or non-affiliated users ("people") are included. This is intended "to increase transparency and democratic accountability, and more effectively to include citizen knowledge and to create environments and services that better respond to citizen needs" (Perjo et al., 2016, p. 2).

As Paskaleva points out (2014, p. 118), 4P means engaging citizens in all aspects of the design and delivery of public services, where both citizens and public authorities are responsible for these processes. In this way the residents become co-producers and co-creators of new services (Cahn 2001).

From the perspective of the city, public-private-people partnerships consist of the following entities (Perjo et al., 2016, pp. 4-10):

- The public sector:
 - Politicians (including city mayors) decide on the relationships with the private sector and residents;

- Civil servants, including planners of various levels, carry out public-related tasks related to the city's development.
- The private sector (financiers, developers, architects, consultants, small and medium enterprises, commercial actors etc.);
- The people sector (individuals and formal and non-formal associations, e.g. NGOs, urban movements).

In such an arrangement, the actors' roles are as follows (Malkki, Norvasuo & Hirvonen 2016, quoted after Perjo 2016):

- Public: steering urban development by providing resources and long-term development framework;
- Private: providing appropriate services and income (in the form of taxes) to the city;
- People: social groups mobilize citizens for the actions of the city / influence the development of the city.

Public authorities have a limited impact on market processes, where private and people are involved, the private sector cannot control a representative democracy, and people have no influence on the relations between the public and the private sector.

The 4P approach is part of a broader quadruple helix concept that addresses the cooperation needed to implement innovative solutions, where the importance of civil society is highlighted (Carayannis, Campbell 2009). Just as the 4P approach developed from public-private partnership, the quadruple helix is a modified concept first framed by H. Etzkowitz and L. Leydesdorff (2000), who, in order to emphasize the importance of tripartite cooperation between universities, businesses and public authorities in innovation, proposed the concept of triple helix. Both the 4P concept and the quadruple helix can provide the basis for reflection on actors and their roles within a specific type of public-private-people partnership, which is undoubtedly the city lab.

CITY LAB – ACTORS AND THEIR ROLES

The literature on living labs abounds in reflections on a variety of actors and their roles (e.g. Cosgrave et al., 2013, Leminen 2013, Leminen and Westerlund 2017, Nyström et al. 2014). Nyström et al. (2014) detail the different approaches to shaping and determining the specific roles in a network, such as a living lab. They have come up with four different approaches to role theory, one of which (structuralist) assumes that actors have pre-assigned roles in the network and the other three (symbolic interactionist, resource-based and action-based) assume their different levels of flexibility. The quoted authors advocate for this second group of approaches, assuming that roles in the living lab can be variable and are based on negotiations between actors in the network (Nyström et al., 2014, p. 485). One actor can perform multiple roles at the same time, and they may vary depending on the context and the purpose for which the network functions. Following this lead, the authors identified 17 potential roles in the living lab, of which 10 were completely new and 7 were derived from reflections on the innovation network (e.g. Heikkinen et al. 2007).

As we can see from the above, the issue of determining roles in a living lab is well known and widely discussed. The same cannot be said about the city lab, which, as we

know from earlier discussions in this article, is a new concept, which is in the phase of operationalization and conceptualization. We know the types of actors participating in the city lab, but no longer have pre-assigned roles. Assuming that the city lab is considered a network of open innovation, when describing the roles of its actors, we can use the findings of research on innovation networks and the living lab concept.

Taking into account the previous considerations, the author would like to differentiate the living lab from the city lab, taking into account the roles of the actors involved. Next, the author will indicate the reasons why companies should engage in the operation of city lab platforms, although the importance of companies in these structures is not as crucial as is the case with the living lab. For this purpose:

1. Reminds the actors involved in city lab activities.
2. Shows the tasks of these actors.
3. Indicates the premises for the involvement of companies in the city lab (next section).

As discussed above (4P, living lab, city lab), participants in city labs include the following (Nyström et al. 2014, Perjo et al. 2016; Scholl and Kemp 2016; Westerlund and Leminen, 2011):

1. Public authorities (politicians and civil servants).
2. Enterprises (they vary in terms of size and type, depending on the task being addressed within the city lab; Perjo et al. (2016) focus on actors participating in urban development planning processes, who may include small and medium enterprises, financiers, developers, architects, consultants, and different commercial actors).
3. Users/city residents (individuals or affiliated in formal and informal organizations, e.g. NGOs, urban movements).
4. Research units.

These groups of actors are also consistent with the quadruple helix concept (Carayannis & Campbell, 2009), where stakeholders are involved in the development of new solutions. In line with the working regions concept (Clark 2013), intermediaries (e.g. public agencies) also constitute important actors. The author of this article agrees with Clark's suggestion of the importance of intermediaries. This classification identifies the actors involved in the preparation, implementation, and monitoring of activities designated under the innovation policy (see Kopyciński 2017). The actors involved in the city lab therefore include:

1. Public authorities.
2. Enterprises.
3. City users.
4. Scientific units.
5. Intermediaries.

The basic tasks of these entities in the city lab are the following:

1. Public authorities:
 - a) Steering urban development: providing resources and long-term development framework (Malkki, Norvasuo & Hirvonen 2016) with the possibility of veto power (Scholl and Kemp 2016);
 - b) Initiator and primary decision maker, whose mission is to guard the achievement of the intended public purpose – to address the city's important prob-

lems in a different form than rigid bureaucratic urban development planning, seeking inspiration from everyday life;

- c) Co-ordinator of activities, both inside the unit (e.g. between the individual cells of the city office) and between different public entities, as well as different levels of authority, e.g. city, districts, regional and national authorities;
- d) A provider of procedures to implement the results of the experiment in the city;
- e) A participant in the process, but moderately engaged in experimenting.

2. Enterprises:

- a) They do not solve their own problems (as is the case in the living lab), but participate in an experiment;
- b) Solving technology problems is less important than in the living lab;
- c) Co-operation in the development of a compromise (e.g. in the field of low-carbon economy) and its adherence to sustainable urban development (e.g. limitation of housing volume, noise, pollution emissions, co-creation and co-financing of common space conversion, etc.);
- d) The need to reconcile often conflicting interests (e.g. architects who care about the quality of spatial development; developers intent on building and selling as many apartments as possible at the highest price; local shopkeepers opposed the location of large chain stores in city centres and big businesses; the largest space for cafeterias vs. pedestrians, cyclists and drivers);
- e) Diverse tasks due to the various actors of this sector. It is difficult to draw unambiguous conclusions based on the recently created concept and the presentation of two case studies. Taking into account the scarce knowledge and limited literature on the subject, it seems reasonable to indicate the following **three main, non-exclusive roles of companies in a city lab**:

- **Initiators** of the city lab (although companies could be forced/encouraged by city residents and the authorities acting on their behalf);
- **Contributor** to the development/implementation of a city lab project (depending on the financial capacity, it may be related to introduce previously unknown trends or engaging world-class experts);
- **Joint decision maker** (with other participants) on the selection of the best project (however, it should be remembered that if the company also acts as a contributor, its impact on the choice of the solution to be adopted can be really significant).

3. Users:

- a) Key active participants in the city lab process through experimentation, co-design, learning in real life context;
- b) Their task is much broader than that of living lab as it involves not only the improvement of goods (short-term perspective), but also the involvement in complex planning processes of the city (long-term perspective).

4. Research units:

- a) Less emphasis on research experience than a living lab;

- b) Assistance in planning processes (e.g. participation of urbanists, planners and students in the design of public spaces, or the creation of traffic control systems that reduce the number of cars entering the city).
5. Intermediaries:
- a) Various tasks, depending on the type of intermediary (e.g. public agencies: performance of tasks commissioned by the city authorities).

Based on the above considerations and using J. Benson's proposal to assign the network actors to one of the five groups (Benson 1983), the following relationships can be envisaged (Table 1).

Table 1. Living lab vs. city lab – characteristics

Characteristics	Living lab	City lab
Coordinator	Enterprise	City authorities
Managing entity	Depending on the task – the entity from quadruple helix + intermediaries	Depending on the task – the entity from quadruple helix + intermediaries
Provider group	Users of goods	City users
Support group	Research institutions, public authorities, intermediaries	Research institutions, enterprises, intermediaries
Recipient	- Direct: company - Intermediate: good users	- Direct: city authorities - Intermediate: city users
Main actor function	Company-profit maximization/loss minimization	City authorities – controlling the process of long-term urban development planning within the city lab
Lab functions	Private (realizing the purpose of the enterprise, using the knowledge of users of goods)	Social (realization of the social goal – improving the quality of life of city users)
Type of resources used	Private, social	Public, private, social
Basic tools	Communication between participants	Communication among participants with certain limitations resulting from the need to maintain the criterion of legality and reality
A measure of success	Launching a solution (good) on marked, worked out by consensus	Improving the quality of life of city users through the implementation of a solution, which has been worked out by consensus and is legal

Source: own study.

The city lab significantly differs from the living lab. In this first case, the coordinator of the activity is the company, whereas in the other one it is the city authorities. Solution providers are respectively the users of goods and city users. In both cases, apart from the users, public authorities and businesses, there are still research and intermediary bodies involved. Depending on the kind of task, one of those entities may assume the managing role. In the living lab, we use private resources for businesses and goods users as well as social resources of groups working to solve the problem, while in the city lab, in addition to these two types, the resources of public authorities are involved. Living labs are part of the involved companies' economic goals: profit maximization / minimization of losses (i.e. private goal), while the city lab contributes to long-term urban development plan-

ning (social goals). In the living lab, private resources are used for businesses. The users of goods use social resources in order to solve a problem, while in the city lab, apart from these two types, the resources of public authorities are involved. In both cases communication tools are used to solve the problem, except that in the city lab they are limited due to the need to meet the requirement of legality and workability. The success of the living lab leads to the introduction of a mutually agreed solution to the market, while the city lab is meant to improve the quality of life of city users.

Provision should be made for the above distinction to be made in extreme cases. For example, a living lab may aim to achieve a social goal unrelated to the egoistic expectations of the company, which may contribute to the improvement of the quality of life. This statement has been shown to highlight the differences in the model situation, with which, in the ideal form, we are dealing relatively rarely.

SHOULD COMPANIES ACTIVELY PARTICIPATE IN CITY LAB PLATFORMS?

Cooperation between companies and other entities is widely discussed in the literature, and due to the constraints of space, it will only be mentioned in passing. Apart from the subject of 4P, which was already discussed, in this context, the stakeholder theory and Corporate Social Responsibility (CSR) should be referenced as well. The stakeholder theory assumes that an enterprise, apart from striving to increase its revenues, should also include ethical and axiological considerations in its operation. As such, it is related to the concept of 'business social involvement' (Freeman 1983, p. 90). In recent years, I. Mitroff (1983) and R.E. Freeman and D. L. Reed simultaneously embarked on a discussion of this trend. So far, there are strong controversies as to how stakeholders can be understood (see: Miles 2011 and 2012). For example, R.E. Freeman (1984, p. 46) understands them as "any group or individual who can affect or is affected by the achievement of the organisation's objectives." The stakeholders include customers, suppliers and employees (economic power), government and interest groups (political power) (Freeman 1983, pp. 93–94), as well as local, regional and national communities, banks and shareholders (Gamble and Kelly 2001) and citizens (Crane et al. 2004).

The issue of stakeholders is more broadly addressed by CSR. The last one can be seen as a kind of interference in a company's business model by way of introducing a certain self-regulatory mechanism to ensure that the company conducts its business in accordance with the law, ethical standards as well as national and international standards (Rasche et al. 2017). The emphasis on being more socially responsible is related to, among others, the ethical and environmental problems highlighted by globalization processes, including the pressure to apply appropriate standards in the foreign investments recipient countries (Miles 2012, p. 292).

Based on synthetically presented stakeholders theory as well as the CSR concept, it should be said that due to the already quoted 'business social involvement,' there are serious arguments in favour of companies' engagement in business-related activities, such as city labs. Of course, such involvement applies to all companies, regardless of their size or country of origin, but it is worth emphasizing the special importance of this kind of activity for Multinational Corporations (MCNs), not only due to the significant loss of social trust after the 2007–2008 crisis (Burson-Marsteller 2011), but also the will to build their positive image in local communities. Prominent examples include the Visegrad

countries, whose largest cities (i.e. Bratislava, Brno, Budapest, Krakow, Prague, Warsaw) are viewed as prime targets for investment in the business services sector (Tholons Services Globalization City Index, 2017), which is a significant employer in these locations.

In view of the above, it appears reasonable to ask why companies, especially MNCs, should participate in the city labs, since, unlike the living labs, they are not the main actors and do not address their specific operating problems. The following answers may be suggested:

1. Building company image as part of Corporate Social Responsibility (CSR). Such undertakings as those in the case studies reviewed above, i.e. co-creation of a green area, or co-financing of a Climathon winning project directly fits in with such a company policy.
2. Building a positive company image and trust in relationships with city users and local authorities. In the long run, it allows to undermine critical thinking about MNCs, which can easily relocate, and cities as their servants, preparing infrastructure for their activities within smart cities (Amin et al. 2000, Hollands 2008, Shiller 1999). Thus, companies become equal partners in city development, alongside its users, public authorities, and research institutions.
3. Rebuilding of trust in international companies and their directors, which, as Burson-Marsteller's study shows, after the 2007–08 crisis, fell in Europe by several dozen percent (Burson-Marsteller 2011).
4. Particular interest of the company related to its activity/development. For example, in the field of spatial planning, it is easier for city authorities to issue construction permits, when its scope and nature has been previously agreed between the residents and the developer.
5. Signing up for Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development (Goal 11: Make cities inclusive, safe, resilient and sustainable). It assumes joint solving of current problems of the city, such as overpopulation, deterioration of infrastructure, lack of funds to provide basic services, and shortage of housing (United Nation homepage: <http://www.un.org/sustainabledevelopment>; Accessed March 2018).
6. As it stands in case studies, companies could be important actors of the city lab, playing the roles of initiators, contributors or joint decision makers.

CONCLUSIONS

This article discusses a fairly new topic of the city lab, pointing out the distinctive features of the living lab concept, which has been present in the literature for a long time. City labs pursue long-term public goals, which include not only improving the goods, but also broadening the planning base of the city development process. It seems fair to say that city labs reflect interest in the role of the state in implementing innovation in urban areas. The importance of public authorities (in this case, the city authorities: politicians and officials) is often insufficiently mentioned in the discussion on socio-economic development. As part of such efforts, city authorities may demonstrate flexibility in solving certain problems free of their rigid bureaucratic corset. At the same time, they take care of workability and legitimacy of solutions developed by the various actors (mainly city users), which increase the likelihood of their implementation. Therefore, the city lab can be understood

as a group of actions initiated by public authorities, aimed at long-term planning of city development (public purpose). They are implemented in the form of open innovation, by experimentation in the real-life context of various entities (primarily city users), where the city authorities (politicians and officials) are particularly concerned, which provide flexible procedures, going beyond the administrative corset. The authorities oversee the reality and legality of the solutions. In this perspective, the city lab can be considered as a kind of platform for implementing a specific type of social innovation – urban innovation, which is created to meet the needs of the city users.

City lab, through the significant involvement of the city authorities, eliminates the risks associated with the emergence of innovations present using similar platforms, such as living labs, which include impracticality of the proposed solutions, cancellations due to lack of legal basis or shortage of financial resources. This is due to the fact that the city authorities watch over the emergence of innovation, guarding its workability and legality. Of course, such supervision entails the risk of preventing other city lab actors from submitting their ideas, e.g. during brainstorming, which would not happen under a freer formula. However, due to the roles of public authorities reviewed above, the implementation opportunities increase. At the same time, the city lab preserves the positive aspects of living lab, such as creativity or multisectorality. However, the command centre is changing: from the company (living lab) to the city authorities (city lab).

Sometimes the concept of living lab is applied to different undertakings that those presented in the article, namely to projects which, according to the terminology adopted here, should be considered as a city lab. It is therefore reasonable to keep the two separate, bearing in mind their coordinators, functions and other criteria presented in this article.

Companies are not the most important city lab actors, so why should they become involved in this kind of platform (the second objective of this article)? First of all, in order to win the citizens' trust (or rebuild such trust, betrayed after the 2007–2008 crisis), which may be an important element of a wider CSR policy. In this perspective, companies are becoming one of the actors in building a smart city, participating in the development of urban areas rather than just a customer expecting the city authorities to create the right business infrastructure. Employees, including the managers of such companies, usually live in the city where they work, and spend their free time there; hence they should be interested in ensuring the best possible conditions for themselves and others. **Therefore, companies have an important role to initiate, co-finance and co-decide on the development of the city using city lab platforms.**

RECOMMENDATIONS FOR FUTURE RESEARCH

The author of the article is aware that the topic of city lab is fairly new and not extensively addressed by the literature. For this analysis, the author had a limited number of articles and case studies. Therefore, the conclusions drawn must be approached with caution. In order to make the basis for inference more grounded, it seems reasonable to suggest potential areas of interest to anyone interested in broadening their knowledge about the city lab. These areas are:

1. Operationalization of functions, resources and tools of city lab actors. The same applies to urban innovation – this concept requires further in-depth research into the actors, their roles, resources used, and the management methods used.

2. From the company point of view:
 - a) Analysis of a larger number of case studies allowing for the clarification of the conclusions presented in this article and perhaps indication of new roles of enterprises in city lab.
 - b) How the involvement of companies in city lab activities affects the perception of those firms by city users.
 - c) Comparison of city labs functioning in different countries (e.g. Central Europe) in terms of capturing the differences in the enterprises' tasks.

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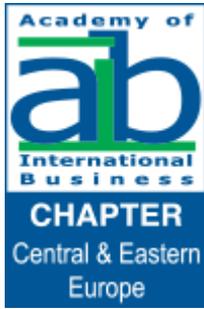
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Student theses oriented on solving business problems as an effective factor of firms' innovativeness

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Abstract

This aim of this paper is to explore the role and usefulness of applied student theses dedicated to solve specified firms' problems from the perspective of firms manage. The additional value of such theses is connected with increase of interpersonal relations between universities and firms as well as decrease costs of recruitment in enterprises. The paper presents the results of research based on 50 interviews conducted in Krakow with representatives of firms for which such theses were prepared by students of five universities. Positive opinion about students engagement, high level of satisfaction of contacts with universities, usefulness and possibility of students theses implementation confirm that such kind of knowledge generated within this process is important for effective strategy of innovative development.

Keywords: Innovation, entrepreneurship

JEL codes: O31, L26

INTRODUCTION

Although the role of universities in regional development is relatively well recognised, most of research is concentrated on patents and expertise (Schoen & Buenstorf, 2013; Singh, Wong, & Ho, 2015). We try to analyse another way of innovative impact of univer-

sities through the process of preparing students' theses oriented to solving firms' problems. In section 1 we analyse the changing role of universities as part of an institutional system of innovative development. In section 2 direct interpersonal relations are analysed as a key value of firms' problem oriented student theses. In section 3 barriers of industry-university interactions are presented and followed by analysis of benefits generated during creation of applied students theses. In section 5 methodology of research is presented as well as results of research regarded usefulness of students' theses for enterprises (interviews were realised with 50 firms representatives).

UNIVERSITIES – PART OF INSTITUTIONAL SYSTEM OF INNOVATIVE DEVELOPMENT

Although universities were always centres of open discussion, exchange of ideas and education of elites, they were not seen as important actors in development, which was based mainly on government-industry interactions. In line with assumptions of a linear model of innovation common after the Second World War basic research was treated as an input for innovative development (Mowery & Sampat, 2005). The first attempts in the literature to include universities in this process were by Lowe (1982) and Sábato and Mackenzi (1982) but a more mature concept named the Triple Helix of university-industry-government relationships was developed in the 1990s by Etzkowitz (1993) and Etzkowitz and Leydesdorff (1995). In this concept not only the role of university in innovative development was stressed but also interactions among university, industry and government, which lead to new institutional and social forms for the knowledge production. Development of this concept in the (neo-) institutional perspective includes a statist configuration, where government plays the leading role, a laissez-faire configuration with limited role of the state and balanced configuration characterised by partnership relations among involved actors and even with a more active role for universities (Etzkowitz & Leydesdorff, 2000). This concept of the Triple Helix was later developed to the concept of Triple Helix Systems of Innovation (Ranga & Etzkowitz, 2013), which was a set of components, relationships and functions. These relationships among components were synthesized into five main types: technology transfer; collaboration and conflict moderation; collaborative leadership; substitution; and networking. The main function of a Triple Helix system goes beyond generating, diffusing and utilizing knowledge and innovation and is connected with the creation of special competences named 'Triple Helix Spaces' which cover the Knowledge, Innovation and Consensus Spaces and refer to entrepreneurial, societal, cultural and policy competencies (Ranga & Etzkowitz, 2013: 242).

The beginning of reorganization of universities in Europe in order to strengthen knowledge transfer to economy is connected with reforms introduced in Great Britain in early 1980s. This trend was stimulated also by wider processes of improving the efficiency of services in public administration which started in 1980 in UK and Australia named New Public Management (Hood, 1991). An approach treating citizens as customers to the public sector in administration was also developed in the system of higher education. The role of the state was slightly transferred from the supplier of public goods to market regulation (Mamica, 2018). This has had its consequences also at higher education system where mechanisms of competition were implemented (CHEPS, 1999; Salerno, 2004).

Mbah (2016) confirmed in his research that interconnections with wider community are an important determinant of universities' capacity to enhance local development.

Relations between universities and industry could be analysed as an important part of engaged scholarship concept, which is defined as “participative form of research for obtaining the different perspectives of key stakeholders (researchers, users, clients, sponsors, and practitioners) in studying complex problems” (Van de Ven: 2007: 9). The probability that solutions achieved by usage of this method will in a better way fulfil market expectations and take into account requirements of sustainable development, is much higher than in the case of innovations pushed by science or even driven by the market. The process of engaging both researchers and practitioners allows for more insightful results than in case of individual work (Simpson & Seibold, 2008). Boyer uses term the scholarship of discovery connected with intellectual climate of a university and stresses that it is “not just the outcomes, but the process, and especially the passion (1990: 17). This process is not just a transfer of knowledge from universities to firms but is characterised by interactions and lead to knowledge coproduction.

Not only research could be commercialized but also education as a part of university mission could be seen from this perspective as a product which could be sold and financed by systems of students fees. It means leaving the Humboldtian model of university as a community of scholars and students and increases the role of university managers concentrated on profit maximizing (Pinheiro, Karlsen, Kohoutek & Young, 2017). Laredo (2007) goes beyond only the expectation of production of new knowledge at universities, but he indicates its relations to economic and social targets. Such pressure on supporting of entrepreneurial ‘milieu’ was observed in UK as a response to consequences of the last global financial crisis (Charles, Kitagawa & Uyarra, 2014). Universities have to find equilibrium in a changing social environment and with reduced financing (Enders, 2013). Jessop (2017) underlines the growing tension between the public functions of universities (what gave them some autonomy from economic imperatives) and their profit-oriented role in the market economy. Looking for new methods of teaching is crucial not only in economic, utilitarian dimension but also “the identity of the modern, rational individual depends upon the direct teaching of abstract epistemically structured knowledge to successive generations” (Rata, 2017: 1003). Working on new application of already existed knowledge directed to solve real firms’ problems is a translation of this abstract knowledge into individual experience, verified by contact with practitioners. Innovations are not only limited to commercial units but are important as well for social dimension of development. McKelvey and Zaring (2017) stress different roles which universities can play in social innovation, despite strong pressure on their commercialisation via patents and start-ups. Students’ theses dedicated to solving social problems could be an effective method of the not-for-profit mission of universities and also help in development of much needed soft skills. Described in this paper is a model of applied student theses which could be an effective tool in broader actions of identification of students who have the capability to produce knowledge in non-standard innovative methods (Tierney & Holley, 2008).

DIRECT INTERPERSONAL RELATIONS AS A KEY VALUE OF FIRMS’ PROBLEM ORIENTED STUDENT THESES

Contacts of academics with firms during the process of thesis preparation by students support their networks of relations. Mosey and Wright (2007) show that those academics who developed commercial and social networks could be habitual entrepre-

neurs which can be an effective way to gain access to equity finance. Collaboration between firms and universities is determined by the development of cognitive and relational social capital (Steinmo, 2015). The first decade of 21st century saw an increased interest in the role of face-to-face communication and buzz in innovation development (Storper & Venables 2004; Bathelt, Malmberg & Maskell, 2004). Buzz is defined as a “key element of the socialisation that in turn allows people to be candidates for membership of ‘in-groups’ and to stay in such groups; and a direct source of psychological motivation” (Storper & Venables, 2004: 365). The role of such direct forms of communication was connected with development of the concept of interactive learning as a main source of innovation (Lundvall, 1992). Knowledge created and shared is known as a tacit knowledge (Polanyi, 1958: 1967).

Unintended knowledge spill-overs are treated as barriers in tacit knowledge diffusion and personal interaction (Boschma, 2005). The presence of students and sometimes thesis supervisors in firm, present an opportunity to perform actions indicated by von Krogh, Ichijo, and Nonaka (2000: 84) as crucial for transfer of tacit knowledge like mixture of “observation, imitation, narration, experimentation and join execution”. Students’ theses based on solving firms’ problems not only create an opportunity to share tacit knowledge of supervisor and firm staff, but also allow creation of both new tacit and codified knowledge. It supports such interactions as watching, listening, touching and discussing. Asheim, Coenen, and Vang (2007) point the role of buzz in the context of knowledge spillovers, which refers to rumours, impressions, recommendations, trade folklore and strategic information. They distinguish however between the importance of buzz and face-to-face communication in different industries, both equal in creative industries which are based on a symbolic knowledge base, and face-to-face communication as much more important for industries based on synthetic (engineering) or analytical (scientific) knowledge bases. Social ties established between students, their supervisors and colleagues play an important role in establishment of new interpersonal relations in innovation networks (Thune, 2006). They allow to maximise the trust among partners and support employment of the brightest students because of former contacts. Common working on finding non-standard solutions requires intensive interactions and fits into the context of pedagogy of conceptual progression which should, according to Rata (2015), develop relationships between the context-dependent knowledge of students’ experience and the context-independent knowledge of the academic subject.

The common work of student and faculty members in solving the real problem of the company/institution will in a natural way strengthen interactions and contact among them. The lack of interactions partly caused because of pressure of publishing has been described in one word as *impersonality* by Barzun who claims that as a consequence of limited relations “the university has lost its magic” ([1968] 1993, 208).

Although personal relations are crucial in problem-based learning there are some positive examples of this process done in virtual space (Gibbins & Brodie, 2008). Gibbins, Lidstone, and Bruce (2015) argue that most important for students engaged in problem-based learning is communication at a lower level, and at higher levels, complex educational issues associated with their own learning. The work done by Rajalo and Vadi (2017) confirmed that in university-industry collaboration relevant preconditions are individual rather than institutional levels of motivation and absorptive capacity. The

process of thesis knowledge transfer based on strong individual relations could lead to further university-industry collaboration.

Involvement of students in preparation of their thesis dedicated to selected firms within their chain of suppliers should be connected with special seminars at universities dedicated to these groups of students. This allows not only knowledge exchange among these firms but also increased levels of product and technology adjustment to the expectations of the goods' recipients. Additionally to the group of students from one university, young people from other universities increase the level of interdisciplinarity and can strengthen the innovativeness of proposed solutions. Besides engineers from technological universities, student teams could be supported by IT specialists, physicists, chemists, designers or economists. The structure of the student group should depend on the specifics of the industry. In the case of creative industries there could be also musicians and students from fine arts universities.

There is common agreement that spatial proximity supports industry-research relations (Fritsch & Slavtchev, 2007; D'Este & Iammarino, 2010; Musil & Eder, 2016). An important determinant of it is connected with fact that regional innovation systems vary because of different paths of knowledge and industrial accumulation (Asheim, 2012; Evangelista, Iammarino, Mastrostefano & Silvani, 2002). Applied student theses can use benefits of such spatial proximity and support the process of localised industrial accumulation.

BARRIERS OF INDUSTRY-UNIVERSITY INTERACTIONS

There are several factors which weaken the industry – university interactions. One of them is insufficient level of cognitive proximity, which does not allow industry to benefit from knowledge base of these institutions (Nesta & Saviotti, 2005). Among other factors are a lack of open and effective communication among stakeholders or lack of clarity among them (Muscio & Vallanti, 2014; Lawton & Leydesdorff, 2014). Research based on experiences of manufacturing firms located in the Emilia Romagna region in Italy showed that an R&D subsidy which supports their co-operation with universities and research institutes, but leaves some level of freedom in taking the decision to engage in this type of co-operation is an effective way stimulate co-operation (Marzucchi, Antonioli & Montresor, 2015). Link, Siegel, and Bozeman (2007) found that allocating by faculty members a relatively high percentage of their time to grants-related research increases the probability of their engagement in informal technology transfer. Implementation of university rules which regulates conflicts of interest between teaching responsibilities of academics and their external activities increases creation of R&D contracts and licenses (Caldera & Debande, 2010). Nowotny, Scott, and Gibbons (2003) connect decline in fundamental research at universities with increased commercialisation of research caused by lower public funds and increasing role of intellectual property rights. Strong pressure on universities to maximise their contribution to knowledge-based economy and intensification of relations with industry lead to a higher level of knowledge which is protected by law and privatised. This trend is with contradiction to the postulate of treating knowledge produced at the university as a public good with maximal positive impact on society and with free movement of ideas, which always stimulated growth (Jessop, 2007). There could be a conflict between private profits and positive externalities achieved when created knowledge is not commercialised and limited by intellectual

property law. This argument is used against the introduction of free capitalism market mechanisms in higher education (Marginson, 2013).

BENEFITS GENERATED BY PROCESS OF PREPARATION APPLIED STUDENTS THESES

Working by students during their theses preparation on real problem defined by firm representatives make this process more attractive for them and bring benefits for all engaged actors. Academics receive information about current industrial technological capacity and needs of firms. Students have higher chances for finding job connected with their interests. They also learn about interpersonal relations which take place in firms. Acquiring by students skills from the interaction with their supervisors increase the level of their satisfaction (Del Río, Díaz-Vázquez & Maside Sanfiz, 2017). Applied thesis support such kind of relations and increase engagement of employers in defining the course learning outcomes which in students' opinion is too narrow (Jorre & Oliver, 2018). The research among undergraduate students showed that those who reported having acquired skills from the interaction with their respective supervisors were significantly more satisfied (Del Río, Díaz-Vázquez & Maside Sanfiz, 2017). Even if the solutions proposed in students' theses are not implementable they receive a chance of deep negative case analysis so important in the process of action learning (Smith, 2017). Firms managers receive access to university laboratories and improve interpersonal relations with academics. Contacts with students during their theses preparation decrease costs of recruitment process and increase chances for finding appropriate employees. It is important because problems with staff recruitment are often treated as an major growth barrier (Coad & Reid, 2012). For firms cooperation with universities increase their brand name as a desired marketplace (Chandrasekaran, Littlefair & Stojcevski, 2015).

The amount of time and determination needed to prepare a Ph.D. thesis based on the development of a technological dilemma makes this process more valuable than in the case of bachelor and master students both for university and industry. There are several empirical researches that confirmed the importance of doctoral students in knowledge production at universities (Kyvik & Olsen, 2008; Slaughter, Campbell, Holleman & Morgan, 2002; Thune, 2009). Firms treat recruitment of graduate doctoral students as an important incentive for keeping relations with universities (Lam, 2001). The disproportion among number of Ph.D. students and positions at research institutions cause students to look for job offers by business. Many studies confirmed their important role in university-industry knowledge transfer (Graversen & Friis-Jensen, 2001; Herrera & Nieto, 2015). The empirical study on Ph.D. projects at Eindhoven University of Technology showed that collaborative projects outperform non-collaborative ones in the dimensions of both number of patents and patent citations and number of publications and their citation (Salimi, Bekkers & Frenken, 2015).

Knowledge generated during process of students theses creation could be seen as a step into minimising the substantive disconnect between universities and surrounding local entrepreneurial and innovation ecosystems which was analysed by Brown (2016) who suggested that entrepreneurial spill-overs from universities, especially in some peripheral regions like Scotland are exaggerated.

USEFULNESS OF STUDENTS' THESES FOR ENTERPRISES: RESULTS OF RESEARCH

Presented below opinions of firms representatives about different aspects of students theses dedicated to solve their problem were based on interviews with 50 of them. In April 2017, 400 emails were sent to students' thesis supervisors at 5 universities localised in Krakow (AGH University of Science and Technology, Cracow University of Economics, Cracow University of Technology, University of Agriculture in Krakow and The Academy of Fine Arts (only to Faculty of Industrial Design) in order to identify firms for which needs thesis were prepared. In effect 62 positive answers were received, while finally 50 interviews covered filling short questionnaires and open questions were conducted by the end of February 2018 (24 in field of technology, 16 at industrial design, 7 at economics and 3 at agriculture). Most of the interviews are available on-line at www.innowacyjnystart.pl (a regional platform dedicated to innovation policy). For statistical analysis was used the method of classification and regression trees (Breiman, Friedman, Olshen & Stone, 1984).

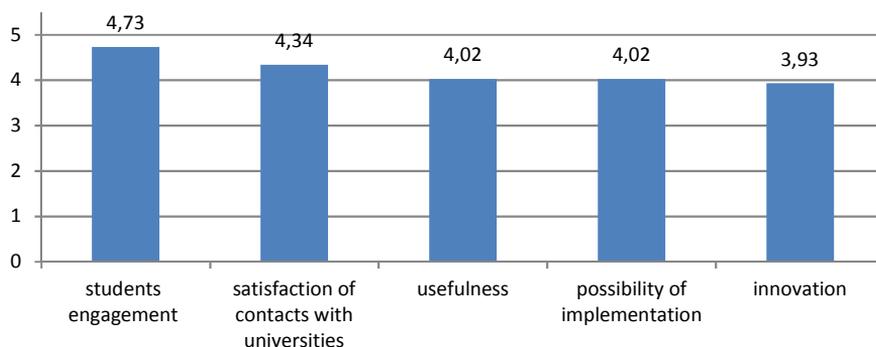


Figure 1. Opinions of managers about different aspects of applied students theses dedicated to firms' problems (in in 5 point scale, where 5 means very high usefulness and 1 very low).

Source: own elaboration.

The average score of usefulness of students' theses for enterprises as well as their possibility of implementation was relatively high: 4,02 (in 5 point scale, where 5 means very high and 1 very low). Firms managers appreciated especially students engagement in this process (average score 4,73). The level of innovation of these theses was estimated as satisfactory (average score 3,93). All of managers who declared previous experience in cooperation with universities (in 20 firms) except one declared that it was positive. The level of satisfaction of such contacts with universities was generally high (average score 4,34).

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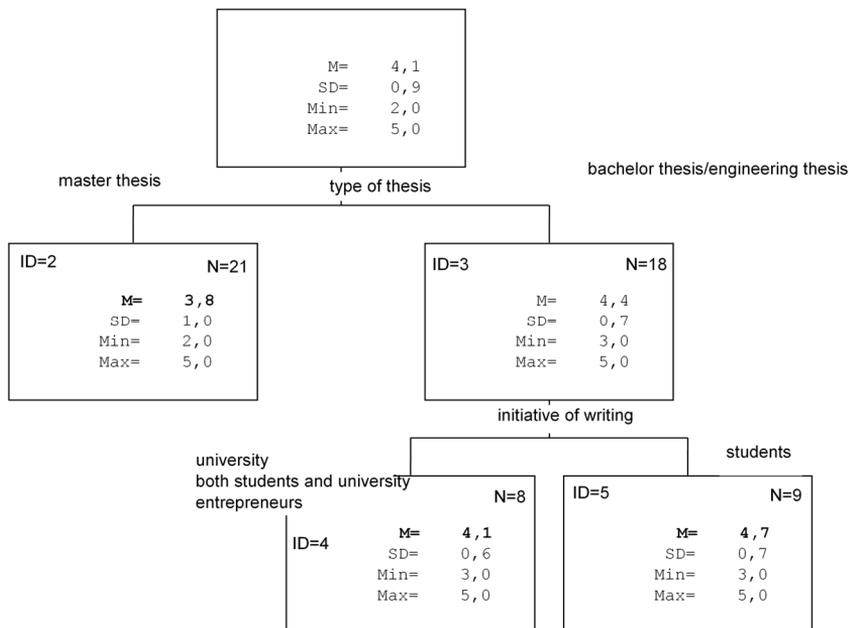


Figure 2. Chart regression tree model: usefulness of thesis for the enterprise (dependent variable)

Source: own elaboration.

SUMMARY

Universities do not use enough potential connected with process of students theses creation which are oriented on solving business problems. It increases interpersonal relations between universities and firms and allow to minimise costs of recruitment in enterprises. Applied student theses are possible because of spatial proximity and support the process of localised industrial accumulation. The research based on interviews with 50 firms managers who participated in the process of applied student thesis preparation confirmed high usefulness of such theses as well as possibility of implementation. It allows to formulate policy recommendation connected with implementation of incentives for academics connected with supervision of such kind of theses.

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New production patterns and the future of manufacturing relocation trend in the 4.0 era: The perspective of consumers

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Abstract

The significance of Industry 4.0 for the future of the global economy is beyond any question, therefore the discussion of business practitioners, politicians and academics about the conditions and potential consequences of implementing this concept is becoming more and more turbulent. The actual value of technologies 4.0 does not result only from the opportunities that they offer, but rather from the integration of huge amounts of data, automation, robotics and production systems in a way that provides companies with a competitive advantage. Innovative business models and the digitization of the value chain aim, among others, to improve customer experience, increase the speed of response to market needs and reduce costs. While some studies provide evidence for the existence of benefits resulting from the implementation of the concept 4.0 from the perspective of enterprises, the attitude from a demand-side perspective both to the technological transformation itself and its potential effects is analyzed to a very limited extent. The article explains the complexity of the 4.0 concept and indicates the selected levels of its use in the economy. In addition, based on the results of questionnaire survey, the general attitude of consumers to the trend of automation and robotization of production as well as their relation to the reshoring of production was presented. The results of the survey showed that

while consumers are aware of the need to implement technology 4.0 and some of the benefits associated with it, they also have a relatively low level of confidence in the new trend. Consumers also expect a gradual relocation of production to Poland, but at the same time a relatively low degree of acceptance of potential negative consequences of this phenomenon is noticeable.

Keywords: industry 4.0; reshoring; offshoring; business model; automation; robotization; 3D printing

JEL codes: D12, D20, F20

INTRODUCTION

Industrial production has undergone significant transformations over the past two centuries. The currently observed transformation is closely related to the transfer of technologies and production solutions, which are part of the Industry 4.0 concept (Wang et al., 2013). The Fourth Industrial Revolution (after mechanization, electrification and computerization / gradual automation) is primarily associated with the ongoing digitization, robotization and development of the Internet of Things (Rodak & Gracel, 2017).

Thanks to the appropriate embedding of technology in organizations, its people and resources, a digital enterprise should communicate, analyze and use data to undertake “intelligent” activities in the real world. Industry 4.0 introduces digital reality, which is accompanied by a gradual evolution of business models implying deep changes in the functioning of the organization.

The potential impact of the implementation of the 4.0 concept goes beyond the area of employment, product innovation and productivity. It is expected that intensified robotization and automation (driven by a continuous drop in robot prices and increased machines efficiency) will comprehensively affect the organization of production within the value chains. From an economic point of view, robots (and other technologies 4.0) can be considered as close substitutes for low-skilled workers and support for people with higher qualifications. Thus, investments in this area may contribute to a change in the size and costs of necessary resources. Under these conditions, Industry 4.0 may contribute to the reshoring, ie company decision to relocate manufacturing activities back to the home country (Dachs et. al 2017, Młody 2017, Moradlou et. al 2016), and hence, the reconstruction of the production base and the gradual reindustrialization of developed economies.

The article addresses three fundamental research questions:

1. What is the attitude of consumers to the transfer of technology 4.0 to the Polish production sector?
2. Whether and to what extent are consumers able to accept the additional costs associated with the production reshoring process using Industry 4.0 technology?
3. What implications for the business models of manufacturing enterprises can be expected considering the effects of the implementation of the Industry 4.0 technologies.

The basic objective of the article is to assess the consumer's attitude both to the transformation of the production sector itself using Industry 4.0 technology and its potential effects, including the relocation of production processes to the home country. The search for answers to the above research questions was based on the conclusions

stemming from the analysis of literature related mainly to the concept of Industry 4.0 and the results of questionnaire surveys carried out among Polish consumers.

DIMENSIONS OF THE INDUSTRY 4.0 CONCEPT

The Fourth Industrial Revolution gradually contributes to changing the way companies operate, and they must decide how and in what way to invest in new technologies and determine which of them meet market needs in the best way. Only a full understanding of the changes and opportunities that Industry 4.0 brings can allow a smooth transition through transformation. For the management team, the transition to real-time access to data and intelligence can both be a challenge and an opportunity, because the integration of digital information from many different sources and locations may speed up the implementation of some processes.

Industry 4.0 is supported by a variety of technologies that integrate the digital world and the real world. OECD (2017) distinguishes three important technological developments that underlie the digitization of production; the Internet of Things (IoT) - enabling the interconnection of machines, stocks and goods; Big Data and dedicated programming - allowing for the analysis of huge amounts of digital data, and cloud computing, which provides access to computing power. Absorption and development of (industrial) robots or autonomous machines is possible thanks to the integration of these systems¹. However, what is particularly important, the implementation of technologies 4.0 leads to a gradual (or sometimes abrupt) modification of the business model of the company (Figure 1).

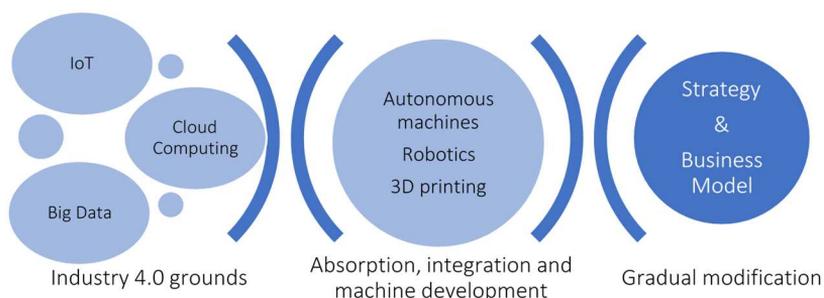


Figure 1. Key elements of digital transformation

Source: own elaboration.

Industry 4.0 is a global concept, but it can take many different forms around the world. In the United States, the emphasis is put mostly on a comprehensive digital evolution. In Europe, where this concept comes from, this phenomenon is more focused on factories. The overall concept remains basically the same and covers the same technologies and applications. Industry 4.0, however, goes beyond the production area, focusing on the

¹ Cotteleer and Sniderman (2018) point to *physical-to-digital-to-physical loop*, occurring in enterprise 4.0. It includes 3 processes: *Physical to digital* (capturing information from the physical world and creating digital records based on physical data), *Digital to digital* (information transfer and discovering valuable insights through advanced analysis, scenario analysis and artificial intelligence), and *Digital to physical* (application of algorithms to transfer decisions taken in digital reality to data that are supposed to stimulate physical activity).

entire ecosystem of partners, suppliers, customers, employees and operational conditions. Thus, it becomes necessary to look holistically at the Fourth Industrial Revolution and the ways in which it is changing business environment (Mussomeli, Gish & Laaper, 2016).

HOW INDUSTRY 4.0 RECONFIGURE PRODUCTION PATTERNS?

It is expected that the costs of hardware and software supporting the implementation of technologies 4.0 will drop, while the efficiency of the systems will improve significantly. BCG (2015) estimates that over the next decade, the cost of robots will be reduced by 20%, and their efficiency will improve by about 5% per year. Until recently, industrial robots, hitherto widely used in the manufacturing industry, were more suited to the implementation of repetitive tasks. Today, however, machines are becoming more and more flexible thanks to the progress of work on the development of artificial intelligence, self-learning and automatic correction, which means that they can perform a wider range of complex activities.

In particular, the use of so-called "cobots" (or cooperating robots) capable of performing repetitive, precise and often complicated tasks is more and more frequent. It is worth noting, however, that this technology helps employees, but it does not replace them. Fratocchi [2017] believes that in comparison with other traditional production technologies, additive manufacturing (3D printing) has clear advantages, allowing, among others, for: obtaining a cost advantage (in the production of small batches), the possibility of a stronger involvement of the recipients and an increase in the value perceived by them and a reduction in energy consumption and the amount of waste.

So far, limited empirical evidence has been obtained on the real effects of the use of robotics, and the discussion in this area is mainly focused on the implications for labor markets. In particular, in developed economies, robots are expected to have a significant impact on employment by generating "technological unemployment" (Brynjolfsson & McAfee, 2011). Frey and Osborne (2017) suggest that almost half (47%) of jobs in the United States can be threatened by computerization and automation. Similarly, Acemoglu and Restrepo (2017) point to the negative impact of robots on employment and wages. However, other studies predict that the impact of robots on the elimination of jobs will be much smaller (e.g., OECD, 2016). The most at-risk jobs include routine occupations, performed by low-skilled workforce (Graetz & Michaels, 2015; Acemoglu & Restrepo, 2017; Frey & Osborne, 2017)

Of course, the potential benefits, but also the dangers associated with the implementation of the concept of Industry 4.0 have a much wider scope. Młody (2018) indicates opportunities, challenges and threats at the level of the entire economy, sector and enterprise. However, it is worth noting that the most of individual factors indicated in Table 1 can penetrate *de facto* through all levels of the economy.

Robots are strongly concentrated in several industry sectors – most applications of modern production machines (around 70%) focus on motor vehicles and transport, consumer electronics, chemical production as well as food and beverages (De Backer et al., 2018). The deployment of robots in industries depends on many factors. First of all, the technical requirements of the production process clearly define the possibility and limits of using robots. Some activities and tasks can be easily automated, while others still have to be carried out through human work. Although robots are becoming more and more

efficient in the assembly process, they are getting cheaper and increasingly capable of working with people, advanced production systems with a wide range of functions are associated with costly implementation, also due to the lack of qualified workforce. In addition, the manufacturing industry, in which labor costs constitute a significant (or prevailing) share in the total cost of production, more often invests in robotization, thereby reducing costs. Another important issue related to the wider use of robots is

Table 1. Benefits and challenges related to Industry 4.0 at the micro, meso and macro levels

Macro level	Opportunities	<ul style="list-style-type: none"> - reindustrialization / inhibition of the offshoring trend - competitiveness of the economy based on aspects other than cost advantage - reshoring of part of manufacturing processes - partial elimination of problems with labor supply
	Challenges	<ul style="list-style-type: none"> - elimination of institutional barriers (including bureaucracy, tax system) - elimination of competency gap - investment / incentive financing - increase in expenditure on R&D (% of GDP) - public and private - institutional support
	Threats	<ul style="list-style-type: none"> - technological unemployment - risk of non-return on investment (public) - problems with full technology implementation - regulation at the supranational level - lack of social acceptance
Meso level	Opportunities	<ul style="list-style-type: none"> - creation of clusters / improvement of competitive position - shifting free labor to labor-intensive industries - strengthened integration of the value chain - improvement of the competitive position of SMEs (subject to the availability of technology)
	Challenges	<ul style="list-style-type: none"> - lack of solutions at the level of industries, including institutional support - problems with the flow of knowledge, know-how and exchange of experience - infrastructure integration
	Threats	<ul style="list-style-type: none"> - the risk of overinvestment due to a strong competitive fight - cannibalism between industries, resulting in excessive business diversification
Micro level	Opportunities	<ul style="list-style-type: none"> - increase in process and production efficiency (supply chain) - reduction of production costs - improvement of flexibility and quality - deliveries for individual orders - acceleration of decision-making processes - shortening the implementation time of new employees (simulations / virtual reality) - reduction of prototyping costs (3D printing)
	Challenges	<ul style="list-style-type: none"> - low inclination of enterprises to invest - attitude of managers (risk) / allocation of resources - responsibility of HR departments - the need to modify the corporate culture
	Threats	<ul style="list-style-type: none"> - cyber-security - technology race / financial liquidity - gradual elimination of manufactories from the market (the possibility of individual orders)

Source: own elaboration based on Młody (2018).

connected with the location of production. Branches that have moved their production to emerging economies are less likely to accept robots and automation, as it is less profitable in locations with lower labor costs.

Manufacturing location and Industry 4.0

The transfer of some production processes to key target markets (including home markets) can be enabled by limiting the need for high human labor costs due to technology 4.0. If these operations turn out to be economically justified, the automated 4.0 factories can revolutionize the market (Berman 2012). Robotics and automation can affect changes in global value chains. The current organization of production in long and complex chains has resulted in companies being less responsive to changes in customer demand. Industry 4.0 is perceived as an opportunity in this context, the use of which may allow to build a competitive advantage.

Some authors indicate that robotization will have a long-term impact on existing production models and may also lead to the relocation of some production processes back to developed economies (Dachs and Zanker, 2015, De Backer et al., 2016). The reshoring process will cover economies that have so far benefited from lower labor costs (Lewis 2014). Due to the fact that production using robots becomes cheaper and offshoring is more and more unprofitable (rising labor costs in e.g. Asian countries), production in the home country is becoming an increasingly favorable alternative for companies. Intelligent robots are becoming increasingly adaptable, programmable and autonomous, which makes them important tools for personalized production. Industries in which market demand and consumer preferences change rapidly can benefit a lot from the use of robots. At the same time, suppliers in offshore locations do not always produce according to the defined specifications, which causes problems with quality and extended delivery time.

The results of De Backer and Flaig (2017), which have been trying to determine the future of global value chains (GVC) based on a series of scenarios, also indicate the impact of automation and robotization on offshoring of enterprises from developed economies. On the basis of one of them, they stated that rapid advances in information technology would increase the attractiveness of OECD economies for production activities. It should be taken into account that while statistics on the number of robots in individual economies are available², the knowledge about the quality and performance of robots that are installed in factories is hardly present. Thus, there are some difficulties in estimating the future effects of industry digitization. In addition, the statistics for individual sectors are presented in a very detailed manner. Astor's research (2017), conducted among over 60 Polish manufacturing companies, indicates that the number of companies

² When assessing the state of automation and robotization of the Polish industry, one can get the impression that the changes are very dynamic. However, the global view shows that compared to other countries, the Polish manufacturing sector still has a lot to catch up to. The International Federation of Robotics (IFR, 2017) classifies the robotization density in Poland (32 robots per 10,000 employees in 2016) far below the global average, behind some Central and Eastern European countries (Hungary, Slovakia, the Czech Republic). Despite this, Poland and the Czech Republic are currently recording the highest growth in the number of implementations in Europe. In the world ranking of robotics, South Korea (631 robots) has been leading the world for many years, while the USA, Germany and Japan have the result half as good at the most. It is also worth paying attention to the strong increase recorded by China.

that are not automated at all is decreasing - in 2013 it was 13%, and in 2016 only 3%. Comprehensive automation is declared by as many as 26% of companies. At the same time, the study indicates that the Industry 3.0 stage is already largely managed by enterprises. The above-mentioned results can be perceived as optimistic, but nevertheless they cover a group of enterprises that are far too narrow.

The phenomenon of manufacturing reshoring from a demand-side perspective has been explored to a small extent so far. Grappi, Romani and Bagozzi (2018) developed a Consumer Reshoring Sentiment (CRS) scale and distinguish four segments of consumers: *ethnocentric reshoring advocates* (consumers who express strong and positive sentiments towards reshoring decisions; supported by strong ethnocentric orientations); *reshoring advocates* (characterized by low levels of consumer ethnocentrism while showing strong reshoring sentiments), *ethnocentric reshoring neutrals* (who evaluate the reshoring decisions of a company through ethnocentric lenses), and *reshoring neutrals* (these consumers express a low level of consumer ethnocentrism and relatively weak reshoring sentiments). According to the authors, „the identification and subsequent targeting of consumers with strong reshoring sentiments (i.e., ethnocentric reshoring advocates and reshoring advocates segments) can be effective strategies for reshoring companies“. In the light of the above, a key question arises to which segment of consumers the clients of the enterprise involved in reshoring belong to.

The conducted analysis may suggest that robotization may inhibit the offshoring process and allow maintaining production activity in developed economies. Another issue is whether investment in technology 4.0 will lead to intensification of the reshoring trend and increase in the number of jobs in the home countries. De Backer et al. (2016) indicate that investments in robotics are very capital-intensive, but they allow to reduce the demand for labor. This may be one of the reasons why the impact of reshoring on employment in developed economies may be rather limited. It seems, however, that at the current, relatively early stage of implementing the 4.0 concept, there may be difficulties in the actual assessment of the impact of robotization and automation on the location of production. It can be expected that potential effects of investments in technology 4.0 will materialize in the near future.

How Industry 4.0 changes business models?

Despite the wide scope of research on business models, no commonly accepted definition has been established so far (Zott, Amit and Massa, 2011; Johnson, 2010). This is due to the difficulty of creating a universal business model. From the perspective of strategic management, a business model is considered as a set of activities that companies use to create and capture value in an enterprise. Osterwalder (2010) indicates that the business model is perceived as a "link" between the company's strategy and its activities, which makes it a peculiar, simplified plan for the operationalization of the strategy. The business model is based on the logic of value creation for all stakeholders and consideration of key value-creating activities that are also carried out by external entities in relation to the enterprise.

Although many attempts have been made to conceptualize the business model, the following values are most often formulated to distinguish business model elements: the value proposition, value creation activities and value capturing (Zott et al., 2011). Most

of the current definitions are in line with Teece's (2010) approach, which interprets the business model as "the design or architecture of the value creation, delivery, and capture mechanisms it employs" (Teece 2010). According to Osterwalder and Pigneur (2010, p. 14), "business model describes the rationale of how an organization creates, delivers, and captures value". The combination of these two definitions can be adopted to create a general overview of changes in business models due to Industry 4.0.

Industry 4.0's technological capabilities allow companies to change the way they create and capture value. The products and services offered can be innovative, and new forms of cooperation and sharing of knowledge change the way in which the company competes on the market. The literature on innovation in the 4.0 business model is limited and it usually includes the impact of individual technologies of Industry 4.0 (Internet of Things, cloud computing, additive manufacturing, Big Data etc.). The characteristics of changes in individual areas of the business model in the context of Industry 4.0 implementation are presented in Table 2.

Table 2. Potential changes and benefits in the business models due to the implementation of technology 4.0

<p>Value proposition <i>Unique offerings/ drivers of customer value</i></p>	<ul style="list-style-type: none"> - Product-service hybrids - Modular and configurable products - New services based on acquired data and information - Combining existing services with services of other enterprises - Highly personalized products - Comprehensive service / concentration on the end customer
<p>Value creation <i>Resources, capabilities and processes / value networks</i></p>	<ul style="list-style-type: none"> - Horizontal and vertical integration - more efficient production, logistics, quality control, inventory management - Real-time information - Connection of machine to machine (internal processes) - Data-driven decision making / big data collection - Close relationships with clients - Short time to enter the market - Development of new additional services - Business infrastructure combined with the infrastructure of partners - High efficiency, high availability
<p>Value delivery <i>Target market seg- ments / distribution channels</i></p>	<ul style="list-style-type: none"> - A more flexible offer based on the individualization of production; - Co-creation of products; smart products - Access to new customer segments - Wider knowledge about the real needs of clients acquired on the basis of personalized marketing - More direct contact with the client - Diversification of sales channels (digital sales)
<p>Value capture <i>Underlying cost struc- ture / revenue model / profit allocation</i></p>	<ul style="list-style-type: none"> - Cost optimization (efficient processes) - Diversification of costs and risks thanks to innovative revenue structures - New revenue streams (pay-per-use, dynamic pricing etc.)

Source: own elaboration based on Arnold et al. (2017), Burmeister et al. (2015), Ibarra et al. (2018), Piller et al. (2015), Pisching et al. (2015), Wiesner et al. (2015).

Estimation of the actual impact of Industry 4.0 on the production sector is a complex process. As indicated in Table 1, the implementation of modern technologies is

conditioned not only by development, accessibility and price, but also by social acceptance for all negative consequences of implementing the 4.0 concept. At the same time, there is no doubt that business models of enterprises using technologies 4.0 will undergo deep modifications. The scope of changes will depend, however, not only on the technology used, but also on the pace of their implementation and the acceptance of changes by the internal environment and customers. Value creation requires the coordination of a huge number of factors, and Industry 4.0 seems to be a platform that is designed to simplify and accelerate the process.

METHOD

The research results presented below are a part of empirical research on the conditions for the development of Industry 4.0 in the Polish manufacturing sector. The research was conducted on a group of 707 respondents in the period January-February 2018. The selection of the research sample was carried out using the snowball method, which is a non-probabilistic selection technique. Online questionnaire consisting of closed questions was the research tool. In the case of most questions, the respondents had the opportunity to answer according to the 5-point Likert scale³, which was assigned the appropriate score for the analysis. The respondents' task was to respond to these statements by determining the degree of their acceptance.

The research sample was diversified in terms of gender, age, financial situation and education of the respondents. The vast majority of respondents consisted of young people, between 18 and 24 (33%) and 25 and 34 (58%)⁴, assessing their situation as average (30.8%), good (57.8%) or very good (9.8%). The majority consisted of people with higher education (84.9%) and secondary education (13%). Most of the respondents (51%) live in cities over 100,000. inhabitants, while every fourth respondent declared a place of residence below 10,000. residents. Spearman's rank correlation coefficient was used to analyse the strength of the relationship between variables. The analysis of interdependencies included the level of acceptance of statements and factors such as: age, education and assessment of the material situation. In addition, average and standard deviation were calculated using IBM SPSS software.

RESULTS

The aim of the first part of the study was to diagnose the consumers' attitude to the diffusion of industry technology 4.0 in the manufacturing sector. In the case of five analyzed statements (1a-1e), a slight correlation was found or no correlation was observed with the characteristics of the respondents. The existing correlations can be considered weak / blurred ($0,1 < |r| \leq 0,3$). Nevertheless, based on the obtained results, one can point to a certain significance of the respondent's age for perceiving the diffusion of technology 4.0 - greater acceptance of the implementation of modern solutions occurs among young consumers.

³ (1 – strongly disagree, 2 – disagree, 3 – neither agree or disagree, 4 – agree, 5 – strongly agree / 1 – not at all important, 2 – low importance, 3 – neutral, 4 – moderately important, 5 – very important)

⁴ The structure of respondents largely reflects the proportions of Internet users in Poland, spending the most time online (CBOS, 2017).

However, analyzing the responses of the entire surveyed population (average), it can be concluded that the awareness of the need to use automation and robotics is high (1d), although the majority of respondents think that human work is of higher quality (1c). At the same time, it is worth noting that the inclination to spend higher amounts for the product made by human labor (1b), as well as the importance of the way of producing the goods (1a) are at a moderate level. It is also important to note that consumers present quite strong belief in the possibility of mass personalization of production through the use of modern production technologies (1e), which may indicate the awareness of the opportunities arising from the implementation of technology 4.0.

Table 3. The general attitude of consumers to the trend of automation / robotization of production

	Average	Standard deviation	Age	Education	Average monthly income
1a. It does not matter to me how the product was manufactured	3,64	1,13	-,168**	,023	-,022
1b. I would prefer to pay more for a product made with a greater amount of human work than machines / robots	3,00	1,10	,174**	-,037	,009
1c. I believe that the machine is able to do the work better than a human	2,73	0,91	-,162**	-,064	,042
1d. Robotization and automation of production is inevitable in some industries	4,21	0,81	-,117**	,091*	,045
1e. Robotization and automation allow large scale personalization of products	3,44	1,01	-,105**	-,015	,038

Significance **p ≤0.01 *p ≤0.05 (bilateral), N - 707

Source: own study.

The second part of the study concerned the perception of selected effects of automation and robotization for the production sector. Interpretation of the answers is not unambiguous. On the one hand, consumers declare that they would accept the implementation of modern technologies 4.0 on a massive scale, if the prices of products dropped with quality remaining at least at the same level (2a). At the same time, however, the same respondents would agree to a small extent on liquidating of jobs (2b). It is worth noting that the understanding of the need for changes in the labor market is lower among older consumers. There was no correlation between statements and other respondents' characteristics (Table 4).

The last part of the study was aimed at assessing the consumers' attitude to the relocation of Polish brand production to the home country in the context of the gradual implementation of automation and robotics. Although the existing correlations can be considered weak, it can be said with some precaution that the older the consumer, the stronger the desire to relocate production to Poland (3a), although from the point of view of the entire research sample (average: 3.56) it is not at a high level.

A similar picture of the situation can be seen in the case of statement 3b - the consumers' tendency to pay more for goods produced mainly with the use of human labor (i.e. small automation, craft production) is relatively low. The above may be confirmed by the interest of consumers in the premises of relocation (3c). The younger the consumer, the fact of using technology 4.0 in the reshoring process is of lesser importance.

Table 4. The level of acceptance of the effects of automation / robotization of production

	Average	Standard deviation	Age	Education	Average monthly income
2a. I would accept automation / robotization of production if prices dropped significantly and the quality remained the same	3,99	0,84	-,041	-,023	-,044
2b. I would accept automation / robotization of production even if it involved the possibility of liquidating jobs	2,55	1,09	-,148**	,055	,016

Significance **p ≤0.01 *p ≤0.05 (bilateral), N - 707

Source: own study.

Table 5. Consumers' attitude to production relocation in the context of the development of automation and robotics

	Average	Standard deviation	Age	Education	Average monthly income
3a. If Polish brands transferred production from Asia to Poland, I would buy them more willingly	3,56	1,01	,205**	,010	,200**
3b. I am willing to pay more for a product made in Poland, but using mainly human labor	3,40	1,09	,212**	-,072	,049
3c. It does not matter to me that the transfer of production to Poland can be based on automation / robotization of production	3,17	0,99	-,148**	-,026	-,007

Source: own study.

DISCUSSION AND CONCLUSIONS

Our study adds to the existing firm-side arguments for the Industry 4.0 implementation a new perspective and it is one of the first papers that adopts the demand-side perspective in examining (even partially) the consequences of the Fourth Industrial Revolution. Industry 4.0 can transform the operations of companies in many ways. The digitally integrated and intelligent value chain offers almost unlimited possibilities. Industry 4.0 technologies improve operational efficiency, productivity, product quality, entry time onto market, resources use, inventory management, workplace safety and sustainable environmental development. In practice, each of the links in the value chain can be based - at least partially - on the components of concept 4.0, starting from planning (e.g. forecasting methods), through development (e.g. simulation process, 3D product models), sales and marketing (e.g. customer intelligence, digital marketing, ecommerce solutions),

internal and external logistics (e.g. track and trace, JIT logistics, supplier, inventory, transport management), production (e.g. operational intelligence, smart machines, robots, smart packaging), and ending on maintenance and service (CGI Global, 2017). With the above in mind, deep modifications of business models seem to be unavoidable.

Technologies 4.0 can improve business operations and thus generate revenue growth, increase customer satisfaction and change the ways products are designed and developed. Data collected through intelligent products and services enable a deeper understanding of customer needs, strengthen customer experience, improve direct sales and marketing strategies and allow companies to improve after-sales service. In the era of Industry 4.0, customer experience is built not only through a physical product but through optimally adapted service and customer involvement.

Digitization makes it easier for companies to collaborate in the supply chain - cloud-based solutions allow companies to exchange data between clients, suppliers and other partners. Regardless of whether the chain consists of physical materials or data, information and expertise, enterprises are dependent on external entities. Industry 4.0 can enable a smart factory to integrate supply networks with logistics capabilities, as well as streamline planning and inventory management processes.

Enterprises from developed countries have long perceived digital production as a potential source of competitive advantage. In the face of new economic challenges, the governments of developing economies have also identified technologies 4.0 as a key factor in their future economic success. In these circumstances, the countries of Central and Eastern Europe, as locations that still have a relative cost advantage, in the long run will be under increasing pressure.

The biggest challenge for enterprises will not involve the implementation of individual solutions of Industry 4.0, but their proper integration. Autonomous robots are only part of the wider digital revolution that is currently taking place. Enterprises will have to invest in complementary assets to fully enjoy the benefits of investing in robotization. To create business value and meet customer expectations in terms of innovation, personalization and rapid market introduction, it is necessary to combine all components and continuously collect and process data across the entire supply chain.

Investments in technologies 4.0 are continuous and not incidental. Significant capital expenditures are required to create a robust and secure network infrastructure, as well as to modernize / replace older systems. At the same time, it is necessary to intensify cooperation with various technology providers, because currently none of them is able to provide complex infrastructure in a comprehensive way.

The introduction of new business models will change the way in which employees perform their daily tasks. Therefore, the implementation of solutions 4.0 requires the involvement of people with completely new competences and skills (flexibility, IT competences, analytical skills). In addition to the shortage of necessary capital, the main barrier is related to the resistance to change, so that the management and employees will have to be properly trained and prepared. It is also important that consumers themselves are prepared for the changes to come.

The main contribution of this paper is to bring consumers into the discussion about the Industry 4.0, who are largely ignored group of subjects in this area. In the light of the presented research results, it can be concluded that although consumers

understand the need to introduce technology 4.0 in the Polish manufacturing sector, at present they are not mentally prepared for this process. Consumers still believe that human labor production has a higher value, but at the same time they believe that Industry 4.0 will enable personalization of production on a wider scale. However, it is optimistic that younger consumers are more open to new solutions. Despite benefits of using new technologies, the recipients are not able to accept the potential loss of jobs, although the study also showed that if the prices of products fell (with their quality not deteriorated), the approval for the implementation of solutions 4.0 would be higher. The potential benefits for the business models presented in this article indicate that properly implemented technologies 4.0 could probably build the value the clients expect. In the context of the relocation processes of production from low-cost countries to Poland, the study showed that reshoring is of relatively minor importance to consumers. The relocation of production would be more justified for the respondents if it involved the creation of new, attractive jobs.

It seems that the cautious approach of consumers to automation and robotics as well as other technologies 4.0 is because they are hardly recognized. The fear of a possible loss of jobs, the probable need to acquire new skills and competences and a simultaneous low public awareness of the benefits offered by Industry 4.0 may lead to the fact that manufacturing companies not only will face internal resistance but also lack of understanding of technological transformation among customers. In this context, the key to success may involve designing, implementing and, subsequently, proper communication of a business model that builds real value for clients.

LIMITATIONS AND FURTHER DIRECTIONS OF RESEARCH

Our study provides new insights addressing the demand-side perspective in exploring the potential consequences of Industry 4.0 implementation. That research area deserves deeper attention by researchers and managers responsible for corporate strategies. The conducted research can be only a limited source of knowledge about the attitude towards solutions matching the Fourth Industrial Revolution. The sample structure of the surveyed respondents included only a few mature consumers, therefore their attitude regarding the implementation of technology 4.0 and relocation of production to Poland was examined to a limited extent. Moreover, our study is basically consumer-oriented and shows some findings for companies operating in the B2C context, but it ignores B2B area which could be considered in further research. The study also did not allow for a detailed diagnosis of consumer approaches in the cross-section of selected product categories.

If the Fourth Industrial Revolution is to take effect, further, intensified research is needed in the coming years at the level of enterprises, industries and entire economies. However, we cannot ignore consumers' perspectives for dynamic technological changes. Future research should focus, *inter alia*, on the assessment of consumers' approach to digitalization across industries - some differences in this context can be expected. It would also be worth to verify in detail the actual knowledge of opportunities and threats, as well as expectations of consumers with regard to Industry 4.0. Such research will not only have an undeniable cognitive value, but also an application value, enabling the construction of business models more adapted to the expectations of consumers.

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Ready, Steady, Go!?? – A V4 country comparison of readiness for the future of production

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Abstract

Technological changes have been addressing universal and global challenges in production, i.e. in producing and marketing goods and services since less than a decade. The ongoing phenomenon of technological changes has several names, like Industry 4.0, and Fourth Industrial Revolution. The paper provides an overview on this phenomenon first. Some initiatives for assessing the resilience of the industry for preparing and managing them will be also discussed. World Economic Forum is among the global institutions, which has been working on uncovering, and grasping the evolving phenomenon and articulating, and formulating suggestions for key stakeholders. A report was published recently by them, which is taken as a base for comparison of the V4 countries. Two of the V4 countries, Czech Republic and Poland among the leading group of the 100 assessed countries, and the other two, Hungary and Slovakia are left behind by the report. By comparing the data, which underpin these positions, the paper provides some insights into the fields, where the two lagging behind countries signal underperformance. The first results are divers. They suggest that the overperforming fields have underperforming subfields and vice versa. Comparisons like this may support not only future discussions on where and how to move on but also may give orientation for businesses and policy makers.

Keywords: V4 countries; industry 4.0; fourth industrial revolution; production;

competitiveness; world economic forum

JEL codes: D24

INTRODUCTION

Currently we are living in the Fourth Industrial Revolution. The spreading of the emerging technologies through industries has set major challenges for decision makers both in the private and public sectors. Therefore in the recent years consultancy companies and international organisations both started to develop methods, which measure the future potential of countries to capitalize on this new industrial era. The Roland Berger consultancy company created the Industry 4.0 Readiness Index for the key industrial countries of the EU (RB 2015). We will present the main outcomes and results of the Readiness Assessment, which are based on the Readiness for the Future of Production Report from the World Economic Forum, and introduce their country archetypes. In Section 4 we will compare the countries from the Visegrad Group (V4), of whom two belongs to the Leading archetype (the Czech Republic, and Poland) and two to the Legacy archetype (Hungary and the Slovak Republic). We analysed these Legacy countries along the drivers of production and identified the main over- and underperformed indicators compared to the Czech Republic.

WHAT SHOULD YOU BE READY FOR? – INDUSTRY 4.0 AND THE FOURTH INDUSTRIAL REVOLUTION

AN INTERNATIONAL READINESS ASSESSMENT – THE WEF READINESS REPORT, 2018

In February 2018 the World Economic Forum (from now on WEF) published its newest paper, the Readiness for the Future of Production (from now on FoP) Report as a part of the series named World Economic Forum’s System Initiative Shaping on the Future. The aim of the paper is to provide information for the decision makers both from the private and public sectors to ensure cooperation between the two sides in connection with modern industrial strategies and policies at a national, regional, and global level. The World Economic Forum’s System Initiative Shaping on the Future of Production seeks direction to ensure a sustainable production system, which has four objectives:

1. It has to be solution-driven, so the technology can handle and solve previously overwhelming challenges.
2. It is human-centric, where innovation, creativity and production will be unleashed by the technology.
3. The technology has to be sustainable to minimize the negative effects on the environment and enable carbon neutrality and save energy and resources.
4. It has to be inclusive, which means “employees, companies and countries at different stages of development benefit from Fourth Industrial Revolution technologies and the transformation of production systems.” (WEF 2018 p. v.)

The Readiness for the Future of Production Report primarily focuses on the fourth objective: inclusive transformation and growth, as production systems will face a technologi-

cal revolution. It is important to deal with the effect of this change, try to take advantage of the emerging opportunities and to prepare for the challenges through collaborations.

Measuring the Readiness for the FoP

The Readiness for the FoP shows us which countries will possibly 1.) capitalize future advanced production opportunities, 2.) mitigate the risks and challenges and 3.) be resilient to future shocks. However, this does not give us information about the current production performance of each country. It is assumed that, if the countries are prepared today, they could be agile, competitive and resilient in the future. To enhance this readiness and be prepared, the decision-makers “need to assess their current capabilities, identify new capabilities required to benefit from and succeed in a new production paradigm, and develop collaborative and customized solutions to facilitate transformation.” (WEF 2018 p.3.)



Figure 1. Readiness Diagnostic Framework

Source: WEF (2018) p. 5.

For this assessment the WEF created a so-called Readiness Diagnostic Framework, where production means a broad spectrum of economic activity related to the manufacturing of products and goods. The framework (see Figure 1) has two main dimensions. The first one is the **structure of production**, which means that a country that already has a developed production system is more ready for the challenges of the future of production, because it has an existing system to build on. It has two main drivers, Complexity and Scale. The Complexity is assessed by The Economic Complexity Index, which “is a measure of the knowledge embedded in a society expressed by the products it makes”. (WEF 2018, p.6.) The Readiness Assessment 2018 uses values from the Atlas of Economic Complexity 2016 Global Rankings. The Scale is calculated by WEF, and builds upon two indicators, the Manufacturing value added and the Significance of manufacturing to the economy. In the assessment the complexity factor weighs 60%, while scale has a 40% weight. (left-hand side of Figure 2).

The second dimension is the **drivers of production** (right-hand side of Figure 2), which means the utilization of the emerging technologies in relation to the future of production. This dimension has six main drivers. In Figure 3 there is an overview of these drivers and of the main concepts they cover. For detailed definitions with all the indicators of the drivers, see Appendix 1. These dimensions and main drivers will be the basis for the comparative analysis of the V4 countries.

The sources of these indicators are international organizations, such as the World Bank, International Labour Organization (ILO), United Nations Industrial Development Organization etc. These statistical data are internationally comparable, therefore they are applicable to be a basis for further analysis.

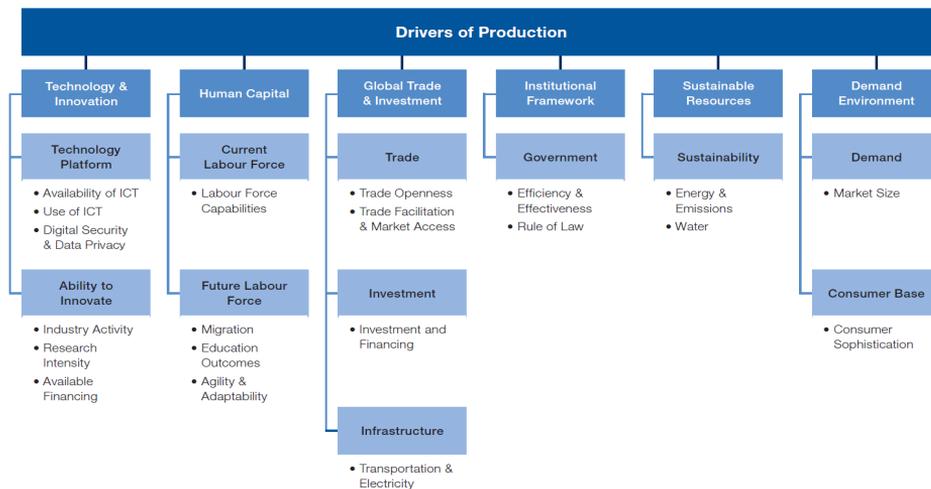


Figure 2. Drivers of Production

Source: WEF (2018) p.7.

The assessment comes with challenges and limitations as well, mainly because of three important factors. (WEF 2018 p.9.)

1. Difficulty to measure the uncertainties in relation to the future, and there is a lack of evidence about the topic, because we are only at the beginning of the transformation of production systems globally;
2. Lack of data for some key concepts;
3. It is hard to identify the strengths and weaknesses of manufacturing in a holistic assessment. Each country needed to examine its own sectoral strategy and make implications accordingly.

The assessment was made for 100 countries from all over the world. Every main driver was calculated from normalized indicators at a scale value between 0-10, where 0 is the worst and 10 is the ideal outcome.

Country archetypes and visualisation

Since every country has its own strategy and policy in relation to production, they did not get an overall global ranking. Instead, four clusters were identified based on the assessment by the Diagnostic Framework (Figure 1): the High-Potential, the Leading, the Nascent, and the Legacy countries to show their relative position to each other (Figure 3). The **Leading** countries have a strong current production system, which means a great basis for future production systems and they have favourable positions regarding the Drivers of Production. This means that their capabilities are good to capitalize the emerging technologies and their effects. The **High-Potential** countries have only limited current production base, but they have the opportunities to increase their capacity regarding the national strategy. The **Legacy** countries have a strong current production base, but they have a disadvantage in the future of production, because of the weaker performance in

the Drivers of Production. The **Nascent** countries have a weak performance in the Drivers of Production and a limited production base as well.

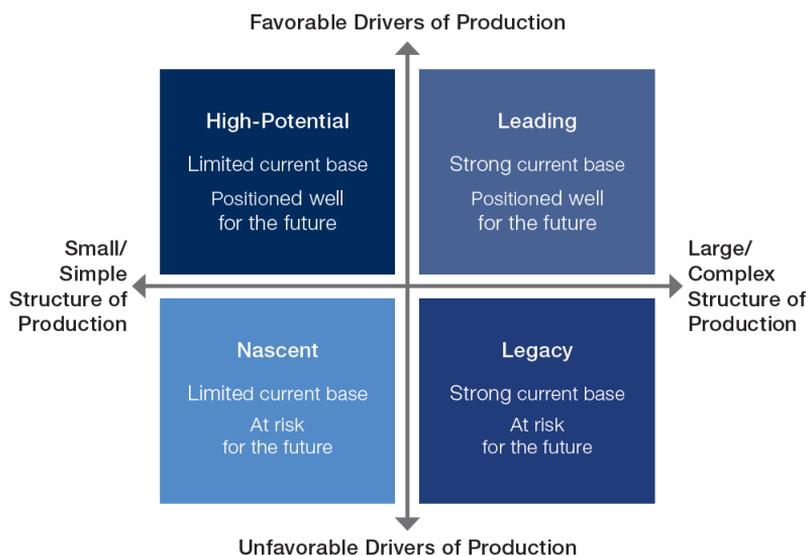


Figure 3. Country Archetypes

Source: WEF (2018) p.9.

The exact division line for each of the quadrants is the same, at the value of 5.7. Therefore those countries, which have a higher performance than 5.7 in Drivers of Production, could belong to the High-Potential or the Leading countries. Similarly, if the value of the Structure of Production is higher than 5.7, then those countries could belong to the Leading or the Legacy archetypes.

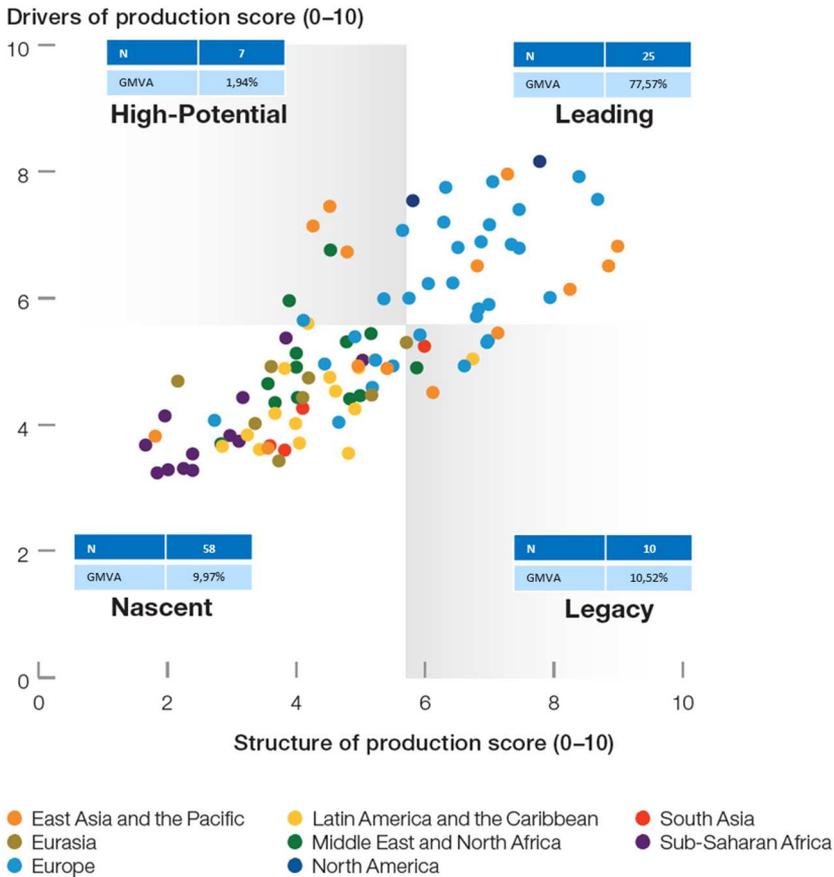
General claims of the Readiness for the Futures of Production

Next to classifying countries by their readiness, eight key general findings were also formulated (WEF 2018, p.viii.-x.):

Global transformation of production systems will be a challenge, and the future of production could become increasingly polarized in a two-speed world

The 25 Leading countries are responsible for the 77.57% of the world global manufacturing value, the 10 Legacy countries have 10.52% in total, the 58 Nascent countries are responsible only for the 9.97% of the global manufacturing value, and the 7 High-Potential ones have only the remaining 1.94% as it is on Figure 4. All of the Legacy countries are originated from Europe, North America, and East Asia, and approx. 90% of the Nascent countries come from Latin America, the Middle East, Africa, and Eurasia.

Based on Figure 4 Visegrad Group (V4) countries belong to the quadrants on the right side of the map, therefore their position in the structure of production dimension is high. Hence a further comparative analysis is based on the main and sub-drivers of production.



Note: Average performance of the top 75 countries is at the intersection of the four quadrants.

Figure 4. Global Map of the Results
Source: WEF (2018) p.9.

Different pathways will emerge as countries navigate the transformation of production systems

They identified three different ways:

- Focus on advanced manufacturing: Mainly advanced countries.
- Focus on traditional manufacturing: These countries are mainly low cost labor destinations, or simply prioritize other sectors over production.
- Focus on a dual approach: In some areas or industries these countries focus on an advanced approach, while in others they choose the traditional one.

All countries have room for improvement

None of the countries reached its full potential in any of the dimensions. There are early leaders such as China, Germany, Japan, the Republic of Korea, Singapore, and the United States, who can serve as role models for others, but even for them there is room for improvement. Furthermore, every country has an industry specific footprint, which determines the most developed industries within a nation.

There are common challenges within each archetype

Leading countries have to find a way to successfully convert readiness into transformation. The Legacy countries have the risk to be squeezed between Leading and Nascent countries, so they have to improve their institutional framework by investing into human capital and boosting the technological platform and the innovation capacity. The key challenge for High-Potential countries will be to find the balance between sectors. The Nascent countries need to determine whether they want to equip the advanced or the traditional manufacturing. Beside that, they have to improve their performance across all Drivers of Production and need to attract global investment.

As the new technological paradigm brings forth a cluster of new industries, there is potential for leapfrogging, but only a handful of countries are positioned to capitalize

The High-Potential countries, which are the closest to the quadrant border have the best position to capitalize on leapfrogging opportunities and achieve this new technology paradigm.

The Fourth Industrial Revolution will trigger selective reshoring, nearshoring and other structural changes to global value chains

It is important to enhance readiness and develop unique capabilities that make countries attractive production destinations within the global value chain.

Readiness for the future of production requires global and regional, not just national solutions

To achieve the full potential of the future of production, there are some enablers that have to be improved, but some cannot be done in isolation. Also, regional co-operations can help the participant countries to compete on a global scale.

New and innovative approaches to public-private collaboration are needed to accelerate transformation

Legacy and Nascent countries can accelerate readiness and transformation with the help of the private sector, and the Leading countries can involve them into the development and implementation of strategies like Industry 4.0. Even for stimulating further researches and discussions with the stakeholders of the ongoing processes in the production.

Two other assumptions have also been formulated, based on the assessment:

- The most important drivers of readiness for the future are Technology & Innovation, Human Capital, Institutional Framework and Global Trade & Investment.
- Scale is not a prerequisite for readiness for the future.

POSITION OF THE V4 COUNTRIES

One of the main aims of the WEF 2018 report was to provide a basis for further researches using its dataset. The profiles of the 100 assessed countries give us an opportunity to examine and compare specific countries. In this paper the V4 countries are in the focus. These countries are the Czech Republic, Hungary, Poland, and the Slovak Republic. The V4 is a political, economic and cultural co-operation between four Central-European countries. (Visegrad Group 2011)

We analysed the position of the V4 countries regarding their main drivers and therefore their classification. (Figure 5) (For the detailed data please see Appendix 2)

Main Drivers	HU	SK	CZ	PL
Structure of Production	7	7	7,9	6.8
Economic complexity	8	7.9	8.7	7.5
Scale	5.3	5.6	6.8	5.9
Drivers of Production	5.3	5.3	6	5.8
Technology & Innovation	4.4	4.2	5.1	4.8
Human Capital	5.5	5.3	6.5	5.7
Global Trade & Investment	5.6	5.9	6.2	6.4
Institutional Framework	5.7	5.9	6.7	6.1
Sustainable Resources	8	8.3	7.6	7.1
Demand Environment	4.5	4.3	5	5.9
Classification	Legacy	Legacy	Leading	Leading

Figure 5. The value of the main drivers of the V4 countries

Source: WEF (2018).

Based on the Readiness Diagnostic Framework, two of the V4 countries belong to the Legacy archetype (Hungary and the Slovak Republic) and two to the Leading (Czech Republic, Poland). The Drivers of Production in the case of Poland is just barely higher than the 5.7 value, which is the division line of the classification. The values of the Structure of Production are slightly higher for Hungary and the Slovak Republic than Poland. Nonetheless, being in the Legacy archetype means higher performance in the Structure of Production, therefore this difference is reasonable. To move from the Legacy cluster into the Leading one means that the countries have to perform higher in the case of the Drivers of Production. The values between Hungary and the Slovak Republic are quite similar to each other, only minor differences can be found. Sustainable Resources is the only driver, where Hungary and the Slovak Republic are higher than the Czech Republic and Poland. The value of the Institutional Framework is exactly on the division line in case of Hungary and slightly higher in the Slovak Republic. The biggest difference between these Legacy and Leading countries in the Drivers of Production of the V4 can be found in the Demand Environment (it could be distorting because of the size of the

economy of Poland), Technology & Innovation, and Human Capital, therefore these main drivers will be the focus of our analysis, and needed to unfold their sub-drivers and take a closer look on their associated indicators.

Comparison of the Legacy and Leading countries of the V4

Being in a Legacy cluster means the given country has a good production basis, which they can build upon the future production system. Therefore, if the Legacy countries want to belong to the Leading countries, they need to have developed indicators from the Drivers of Production dimension. Hungary and the Slovak Republic have a lag behind in every main driver from that dimension except the Sustainable Resources.

In our comparative analysis we chose the Czech Republic as a benchmark, because it has higher performance, than Poland and its economy is closer in size both to Hungary and to the Slovak Republic.

During the analysis we use the percent deviations between the countries to make our calculations more transparent. In the introduction of negative deviations we only present the lowest indicators in the main part of this paper, because we would like to highlight the priorities. Therefore we unfold the main drivers and made our analysis on the level of the sub-drivers and its indicators. In the last column we calculated the percent deviation for every indicator, sub and main driver. For the better visualisation of our results we left the indicators grouped under its sub and main drivers.

Hungary and the Czech Republic

On Figure 6 we can see the lowest indicators in the case of Hungary compared to the Czech Republic. For the full list of indicators, please see the Appendix 3. These indicators are belongs to three of the main drivers. The first two indicators are related to the level of the Venture Capital. This means, that not only the absolute value of the Venture Capital is very low but it is low even compared to the size of the economy, which is only 26% compared to the Czech Republic. There is another innovation-related indicator which underperformed, namely the patent applications, with the value of 15.76 applications per million population. Five of these indicators are related to the Human Capital. In the case of the current labor force sub-driver the digital skills among population are the lowest. In the case of the future labor force we can find, that the migration rate and the quality of vocational training are too low. Furthermore, the Pupil to teacher ratio is only 11, which is 7.9 lower than in the Czech Republic, and the country capacity to attract and retain talents is 68% of the Czech level. In the case of the Investment sub-driver, the value of the domestic credit to private sector is only 67% compared to the Czech Republic.

On Figure 7 we can find the overperformed indicators in the case of Hungary compared to the Czech Republic. These indicators are belongs to five of the main drivers. Five of the indicators (trade, buyer sophistication, internet users, female participation in labor force and mobile cellular telephone subscription) are just slightly over the level of the Czech Republic's. In the case of the Future labor force sub-driver, the hiring and firing practices are higher in Hungary than in the Czech Republic. There are two sustainability indicators with significantly higher value than in the Czech Republic. The highest indicator is the R&D expenditures, which is 280% compared to the Czech Republic.

Main Drivers	Hun	CZ	HUN/CZ
Drivers of Production	5.3	6	88%
Technology & Innovation	4.4	5.1	86%
Ability to innovate	2.4	3.1	77%
Patent applications (applications per million pop.)	15.76	23.32	68%
Venture capital deal volume (US \$millions)	943.5	5412.7	17%
Venture capital deal volume per size of economy (US\$/GDP)	7.3	27.7	26%
Human Capital	5.5	6.5	85%
Current Labour Force	6.9	7.6	91%
Digital Skills among population (1-7 best)	3.3	4	83%
Future Labour Force	4	5.4	74%
Migration (migrants/100000 pop)	7.6	19	40%
Country capacity to attract and retain talents (1-7 best)	2.5	3.3	76%
Quality of vocational training (1-7 best)	3.2	4.4	73%
Pupil-to teacher ratio in primary education (ratio)	11	23.8	46%
Global Trade & Investment	5.6	6.2	90%
Investment	1.2	1.8	67%
Domestic credit to private sector (% GDP)	34.4	51.2	67%

Figure 6. The main indicators with underperformance: Hungary compared to the Czech Republic

Source: own calculation based on WEF (2018).

Main Drivers	HU	CZ	HU/CZ
Drivers of Production			
Technology & Innovation			
Mobile-cellular telephone subscriptions (/100 pop)	119,1	115,5	103%
Internet users (% population)	79,3	76,5	104%
Ability to innovate			
R&D expenditures (% GDP)	1,4	0,5	280%
Human Capital			
Current Labour Force			
Female participation in labor force (ratio)	0,89	0,86	103%
Future Labour Force			
Hiring and firing practices (1-7 best)	4,5	3,3	136%
Global Trade & Investment			
Trade			
Trade (% GDP)	174,7	153,4	114%
Sustainable Resources			
Sustainability			
Baseline water stress (Annual withdrawals, % of annual available blue water)	0,5	1,1	220%
CO2 intensity level (CO2 emissions in megatons/GDP (US\$ billions))	0,3	0,5	167%
Demand Environment			
Consumer Base			
Buyer sophistication (1-7 best)	3,2	2,9	110%

Figure 7. The main indicators with overperformance: Hungary compared to the Czech Republic

Source: own calculation based on WEF (2018).

The Slovak Republic and the Czech Republic

On Figure 8 we can see the indicators, with the lowest value in the case of the Slovak Republic compared to the Czech Republic. For the full list of indicators, please see Ap-

pendix 3 again. These indicators belong to three of the main drivers. The innovation side of the Technology and Innovation main driver is far worse than the technological one. The number of the patent applications and the scientific and technical publications is significantly less than in the Czech Republic. The situation with the Venture Capital is the same as in the case of Hungary.

In the case of the Future Labor Force from the Human Capital driver the problems mainly come from the educational side of the indicators. The number of quality universities is exceptionally low (only one). The migration indicator is only 15% compared to the Czech Republic. The problems of the Global Trade & Investment driver come from the Investment sub-driver, namely from the FDI inflows and Greenfield Investments. The FDI inflows are only 10% compared to the Czech Republic.

Main Drivers	SK	CZ	SK/CZ
Drivers of Production	5.3	6	88%
Technology & Innovation	4.2	5.1	82%
Ability to innovate	2.3	3.1	74%
Scientific and technical publications (number per Billion PPP\$ GDP)	19.6	34.7	56%
Patent applications (applications per million pop.)	7.45	23.32	32%
Venture capital deal volume (US \$millions)	672.8	5412.7	12%
Venture capital deal volume per size of economy (US\$/GDP)	7.3	27.7	26%
Human Capital	5.3	6.5	82%
Future Labour Force	3.5	5.4	65%
Migration (migrants/100000 pop)	2.8	19	15%
Country capacity to attract and retain talents (1-7 best)	2.2	3.3	67%
Quality of Universities (count)	1	10	10%
Global Trade & Investment	5.9	6.2	95%
Investment	1.5	1.8	83%
Greenfield Investments (US \$ millions)	2025.8	3365.5	60%
FDI inflows (US\$ millions)	510.7	5018	10%

Figure 8. The main indicators with underperformance: the Slovak Republic compared to the Czech Republic

Source: own calculation based on WEF (2018).

On Figure 9 we can find the indicators, which are higher in the Slovak Republic than in the Czech Republic. These indicators belong to four of the main drivers. Seven of the indicators (female participation in labor force, electricity infrastructure, FDI and technology transfer, internet users, government procurement of advanced technology products, mobile cellular subscriptions, and domestic credit to private sector) are just slightly higher than in the Czech Republic. From the Global Trade Investment, the Trade indicator performed higher than the other two in this sub-driver. The case is similar to Hungary when it comes to the R&D expenditures indicator, the value of which is 180% of the level of the Czech Republic. There are four sustainability indicators with significantly higher value than in the Czech Republic.

CONCLUSIONS

One of the main goals of The Readiness Assessment from the WEF is to catalyse structured multi-stakeholder dialogues between the public and private sectors. We chose the V4 countries as a focus of our paper. Therefore we analysed Hungary and the Slo-

vak Republic, which belong to the Legacy archetype and compared them to the Czech Republic, which was used as a benchmark. After we expanded the main indicators, the results of the analysis showed us a diverse picture on the differences between the levels of the sub-indicators. In terms of the defined main assumptions from the WEF, Hungary and the Slovak Republic have lower values in three out of the four most important drivers in connection with the Drivers of Production.

Main Drivers	SK	CZ	SK/CZ
Drivers of Production			
Technology & Innovation			
Technology Platform			
Mobile-cellular telephone subscriptions (/100 pop)	128	115.5	111%
Internet users (% population)	80.5	76.5	105%
FDI and technology transfer (1-7 best)	5.2	5	104%
Ability to innovate			
Gov't procurement of advanced technology products (1-7 best)	3.2	3	107%
R&D expenditures (% GDP)	0.9	0.5	180%
Human Capital			
Current Labour Force			
Female participation in <u>labor</u> force (ratio)	0.88	0.86	102%
Global Trade & Investment			
Trade			
Trade (% GDP)	183.9	153.3	120%
Investment			
Domestic credit to private sector (% GDP)	57	51.2	111%
Infrastructure			
Electricity infrastructure (0-100)	100	96.5	104%
Sustainable Resources			
Sustainability			
Alternative and nuclear energy use (% total energy use)	0.4	0.3	133%
CO2 intensity level (CO2 emissions in megatons/GDP (US\$ billions))	0.3	0.5	167%
CH4 intensity level (CH4 emissions in megatons/GDP (US\$ billions))	0	0.1	NA
Baseline water stress (Annual withdrawals, % of annual available blue water)	0.2	1.1	550%

Figure 9. The main indicators with overperformance: the Slovak Republic compared to the Czech Republic

Source: own calculation based on WEF (2018).

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Appendix 1 Definitions of the main indicators of the Drivers of Production

Drivers of Production	Description
Technology & Innovation (Weight: 20%)	
Technology Platform (7)	
Mobile-cellular telephone subscriptions	Number of mobile-cellular telephone subscriptions per 100 people. This includes post-paid subscriptions, active prepaid accounts (i.e. that have been active during the past three months) and all mobile-cellular subscriptions that offer voice communications.
LTE mobile network coverage	Percentage of the population covered by at least an LTE/WiMAX mobile network. Refers to the percentage of inhabitants that live within range of LTE/LTE-Advanced, mobile WiMAX/WirelessMAN or other more advanced mobile-cellular networks, irrespective of whether or not they are subscribers. This is calculated by dividing the number of inhabitants that are covered by the previously mentioned mobile-cellular technologies by the total population and multiplying by 100. It excludes people covered only by HSPA, UMTS, EVDO and previous 3G technologies, and also excludes fixed WiMAX coverage.
Internet users	Percentage of individuals who used the internet from any location and for any purpose, irrespective of the device and network used, in the last three months.
FDI and technology transfer	Executive Opinion Survey: “To what extent does foreign direct investment (FDI) bring new technology into your country? (1 = not at all, 7 = to a great extent)”
Firm-level technology absorption	Executive Opinion Survey: “In your country, to what extent do businesses adopt the latest technologies? (1 = not at all, 7 = to a great extent)”
ICT-enabled business models	Executive Opinion Survey: “In your country, to what extent do ICTs enable new business models? (1=not at all, 7=to a great extent)”
Cybersecurity commitment	Score from the 2017 Global Cybersecurity Index, which measures cybersecurity commitment across five pillars: Legal: Measured based on the existence of legal institutions and frameworks dealing with cybersecurity and cybercrime. Technical: Measured based on the existence of technical institutions and frameworks dealing with cybersecurity. Organizational: Measured based on the existence of policy coordination institutions and strategies for cybersecurity development at the national level. Capacity Building: Measured based on the existence of research and development, education and training programs; certified professionals and public sector agencies fostering capacity building. Cooperation: Measured based on the existence of partnerships, cooperative frameworks and information sharing networks.
Ability to innovate (10)	
State of cluster development	Executive Opinion Survey: “In your country, how widespread are well-developed and deep clusters (geographic concentrations of firms, suppliers, producers of related products and services, and specialized institutions in a particular field)? (1 = non-existent, 7 = widespread in many fields)”

Company investment in emerging technologies	Executive Opinion Survey: “In your country, to what extent do companies invest in emerging technologies (e.g. Internet of Things, advanced analytics and artificial intelligence, augmented virtual reality and wearables, advanced robotics, 3D printing)? (1=not at all, 7= to a great extent)”
Companies embracing disruptive ideas	Executive Opinion Survey: “In your country, to what extent do companies embrace risky or disruptive business ideas? (1 = not at all, 7 = to a great extent)”
Multi-stakeholder collaboration	Average score of the three following Executive Opinion Survey questions: “In your country, to what extent do people collaborate and share ideas within a company? (1 = not at all, 7 = to a great extent)”; “In your country, to what extent do companies collaborate in sharing ideas and innovating? (1 = not at all, 7 = to a great extent)”; and “In your country, to what extent do business and universities collaborate on research and development (R&D)? (1 = not at all, 7 = to a great extent)”
R&D expenditures	Expenditure on research and development (R&D) as a percentage of gross domestic product (GDP). Expenditures for research and development are current and capital expenditures (both public and private) on creative work undertaken systematically to increase knowledge, including knowledge of humanity, culture, and society and the use of knowledge for new applications. R&D covers basic research, applied research and experimental development.
Scientific and technical publications	Number of scientific and technical journal articles published per billion PPP\$ GDP. Article counts are from a set of journals covered by the Science Citation Index (SCI) and the Social Sciences Citation Index (SSCI). Articles are classified by year of publication and assigned to each country/economy on basis of the institutional address(es) listed in the article. Articles are counted on a count basis (rather than a fractional basis)—that is, for articles with collaborating institutions from multiple countries/economies, each country/economy receives credit on the basis of its participating institutions.
Patent applications	Total number of patent families filed in at least two of the major five (IP5) patent offices in the world per million people. The major five (IP%) offices are: the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People’s Republic of China (SIPO), and the United States Patent and Trademark Office (USPTO). Data is extracted from the PATSTAT database by earliest filing date and inventor country, using fractional counts. Presented in average number of applications over 2012-2014 and divided by the average population over the same period to get per million population.
Venture capital deal volume	Three-year average value of venture capital deals (US\$). Deal status includes: Completed; Announced; In bidding process; Upcoming; Postponed. Deal date from: 1 January 2014 to 31 December 2016.
Venture capital deal volume per size of economy	Three-year average value of venture capital deals divided by the three-year average value of GDP (US\$). Deal status includes: Completed; Announced; In bidding process; Upcoming; Postponed. Deal date from: 1 January 2014 to 31 December 2016. The data are reported per billion PPP\$ GDP.
Human Capital (Weight: 20%)	
Current Labour Force (6)	

Manufacturing employment	The share of manufacturing employment in total employment. Employment is defined as comprising all persons of working age who, during a specified brief period, were in the following categories: paid employment (whether at work or with a job but not at work) or self-employment (whether at work or with an enterprise but not at work). No distinction is made between persons employed full time and those working less than full time. The sectors of economic activity are defined according to the International Standard Industrial Classification of All Economic Activities (ISIC), Revision 3 (1990) and Revision 4 (2008). Manufacturing refers to industries belonging to the sector D defined by ISIC Revision 3, or C defined by ISIC Revision 4. Figures for updates are obtained from national data and estimates produced by the International Labour Organization (ILO).
Knowledge-intensive employment	Sum of people in categories 1 to 3 as a percentage of total people employed, according to the International Standard Classification of Occupations (ISCO). Categories included are: ISCO-08: 1 Managers, 2 Professionals, and 3 Technicians and associate professionals (years 2007–15); ISCO-88: 1 Legislators, senior officials and managers, 2 Professionals, 3 Technicians and associate professionals (2007–15); ISCO-68: 1 Professional, technical and related workers (category 0 Armed forces is excluded), 2 Administrative and managerial workers, 3 Clerical and related workers (years 2007–08).
Female participation in labour force	The ratio of the percentage of women aged 15–64 participating in the labour force as workers earning wages and salaries to the percentage of men aged 15–64 participating in the labour force as workers earning wages and salaries.
Mean years of schooling	Average number of completed years of education of a country's population aged 25 years and older.
Availability of scientist and engineers	Executive Opinion Survey: "In your country, to what extent are scientists and engineers available? (1 = not available at all, 7 = widely available)"
Digital Skills among population	Executive Opinion Survey: "In your country, to what extent does the active population possess sufficient digital skills (e.g. computer skills, basic coding, digital reading)? (1= not at all, 7= to a great extent)"
Future Labour Force (11)	
Migration	The measure of net migration (inflows and outflows) in a country over the period from 2010–2015, in 000s of people (in thousands), per 2015 population size.
Country capacity to attract and retain talents	Average score of the two following Executive Opinion Survey questions: "To what extent does your country attract talented people from abroad? (1 = not at all; 7 = to a great extent, the country attracts the best and brightest from around the world)" and "To what extent does your country retain talented people? (1 = not at all, the best and brightest leave to pursue opportunities abroad; 7 = to a great extent, the best and brightest stay and pursue opportunities in the country)"
Quality of Universities	The number of universities for each country included in QS World University Ranking 2018 out of 972 universities.
Quality of vocational training	Executive Opinion Survey: "In your country, how do you assess the quality of vocational training? (1 = extremely poor, among the worst in the world; 7 = excellent, among the best in the world)"

Quality of math and science education	Executive Opinion Survey: “In your country, how do you assess the quality of math and science education? (1 = extremely poor, among the worst in the world; 7 = excellent, among the best in the world)”
School life expectancy	Total number of years of schooling (primary to tertiary) that a child can expect to receive. Based on the assumption that the probability of his or her being enrolled in school at any particular future age is equal to the current enrollment ratio at that age.
Pupil-to-teacher ration in primary education	Average number of pupils per teacher based on the headcounts of both pupils and teachers in a country.
Critical thinking in teaching	Executive Opinion Survey: “In your country, how do you assess the style of teaching? (1 = frontal, teacher based and focused on memorizing; 7 = encourages creative and critical individual thinking)”
Active labour policies	Executive Opinion Survey: “In your country, to what extent are unemployed people supported in reskilling and finding new employment? (1=not at all, 7=to a great extent)”
On-the-job training	Average score of the two following Executive Opinion Survey questions: 1) “In your country, how available are high-quality, professional training services? (1 = not available at all, 7 = widely available)” and 2) “In your country, to what extent do companies invest in training and employee development? (1 = not at all, 7 = to a great extent)”
Hiring and firing practices	Executive Opinion Survey: “In your country, to what extent do regulations allow flexible hiring and firing of workers? (1 = not at all, 7 = to a great extent)”
Global Trade & Investment (Weight: 20%)	
Trade (4)	
Trade	The sum of exports and imports of goods and services measured as a share of GDP.
Trade tariffs	Trade-weighted average tariff rate. An applied tariff is a customs duty that is levied on imports of merchandise goods. This indicator is calculated as a weighted average of all the applied tariff rates, including preferential rates that a country applies to the rest of the world. The weights are the trade patterns of the importing country’s reference group.
Prevalence of trade barriers	Executive Opinion Survey: “In your country, to what extent do non-tariff barriers (e.g. health and product standards, technical and labeling requirements, etc.) limit the ability of imported goods to compete in the domestic market? (1 = strongly limit, 7 = do not limit at all)”
Logistics performance	Average score of five components from the International Logistics Performance Index: <ul style="list-style-type: none"> -Customs: the efficiency of customs and border management clearance - Ease of arranging shipments: the ease of arranging competitively priced shipments - Quality of logistics services: the competence and quality of logistics services—trucking, forwarding and customs brokerage - Tracking and tracing: the ability to track and trace consignments - Timeliness: the frequency with which shipments reach consignees within scheduled or expected delivery times
Investment (3)	

Greenfield Investments (US \$ millions)	Five-year average value of announced greenfield FDI projects, by destination, in US\$ (millions). A greenfield investment is a form of foreign direct investment where a parent company builds its operations in a foreign country from the ground up, organically.
FDI inflows (US\$ millions)	Five-year average net FDI flows of country or economy. FDI inflows and outflows comprise capital provided (either directly or through other related enterprises) by a foreign direct investor to a FDI enterprise, or capital received by a foreign direct investor from a FDI enterprise. Data on FDI flows are presented on net bases (capital transactions' credits less debits between direct investors and their foreign affiliates)
Domestic credit to private sector (% GDP)	Financial resources provided to the private sector by financial corporations as a percentage of GDP. Financial resources are loans, purchases of non-equity securities, and trade credits and other accounts receivable, that establish a claim for repayment.
Infrastructure (2)	
Transport Infrastructure	This indicator is calculated by the World Economic Forum by aggregating eight indicators that measure roads, railroads, air transport and water transport infrastructure.
Electricity infrastructure (0-100)	This indicator is calculated by the World Economic Forum by aggregating two indicators that measure the electrification rate and electric power transmission and distribution losses. For more information, write to
Institutional Framework (Weights: 20%)	
Government (4)	
Regulatory efficiency	Average of score of three components from the Index of Economic Freedom: <ul style="list-style-type: none"> - Business Freedom: the extent to which the regulatory and infrastructure environments constrain the efficient operation of businesses. - Labour Freedom: considers various aspects of the legal and regulatory framework of a country's labour market, including regulations concerning minimum wages, laws inhibiting layoffs, severance requirements, and measurable regulatory restraints on hiring and hours worked, plus the labour force participation rate as an indicative measure of employment opportunities in the labour market. - Monetary Freedom: combines a measure of price stability with an assessment of price controls.
Corruption Perceptions Index	Overall score from the Corruption Perceptions Index (CPI). The CPI scores/ranks countries/territories based on their perceived level of corruption in the country's public sector. It is a composite index: a combination of surveys and assessments of corruption, collected by a variety of reputable institutions.
Future orientation of government	Average score of the following four Executive Opinion Survey questions: <ol style="list-style-type: none"> 1) "In your country, how fast is the legal framework of your country in adapting to digital business models (e.g. e-commerce, sharing economy, fintech, etc.)? (1 = not fast at all, 7 = very fast)"; 2) "In your country, to what extent does the government ensure a stable policy environment for doing business?"; 3) "In your country, to what extent does the government respond effectively to change (e.g. technological changes, societal and demographic trends, security and economic challenges)?" 4) "In your country, to what extent does the government have a long-term vision in place?" For the last three questions, the answer ranges from 1 (not at all) to 7 (to a great extent).

Rule of law ((2,5)-2 best)	Score for the Rule of Law dimension in the <i>Worldwide Governance Indicators</i> report issued by the World Bank. Rule of law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police and the courts, as well as the likelihood of crime and violence.
Sustainable Resources (Weight: 5%)	
Sustainability (6)	
Alternative and nuclear energy use	Alternative energy includes hydropower and nuclear, geothermal, biomass and solar power, among others. Calculated as a % based on Total Primary Energy Supply.
CO2 intensity level	Total CO2 (carbon dioxide) emissions in a given country, as a ratio of GDP (US\$ billions).
CH4 intensity level	Total CH4 (methane) emissions in a given country, as a ratio of GDP (US\$ billions).
N2O intensity level	Total N2O (nitrous oxide) emissions in a given country, as a ratio of GDP (US\$ billions).
Baseline Water Stress	Score for Baseline Water Stress from the World Resources Institute report. Baseline water stress measures total annual water withdrawals (municipal, industrial and agricultural) expressed as a percentage of the total annual available blue water. Higher values indicate more competition among users. Countries were sorted into 5 respective categories based on their respective scores, low <10% (score from 0–1), low to medium 10-20% (score from 1–2), medium to high (score from 2–3), high 40–80% (score from 3–4), and extremely high >80% (4–5).
Wastewater treatment	Score for Wastewater Treatment from the Yale EPI. The indicator measures the proportion of wastewater collected and produced by households, municipalities, and industry that is treated, weighted by the population covered by the sewage network.
Demand Environment (Weight: 15%)	
Foreign and Domestic Demand (1)	
Market size (0-100 best)	This indicator is calculated by the World Economic Forum as an aggregate measure that reflects Gross Domestic Product (GDP) valued at purchasing power parity in billions of international dollars and the imports of goods and services as a percentage of GDP. The score corresponds to the natural logarithm of the sum of GDP and imports, valued at purchasing power parity (PPP). Valuation of imports at PPP is estimated by multiplying the share of exports by the value of GDP.
Consumer Base (2)	
Buyer sophistication	Executive Opinion Survey: “In your country, on what basis do buyers make purchasing decisions? (1 = based solely on the lowest price, 7 = based on sophisticated performance attributes)”
Extent of market dominance (1-7 best)	Executive Opinion Survey: “In your country, how do you characterize corporate activity? (1 = dominated by a few business groups, 7 = spread among many firms)”

Source: WEF FOP 2018.

Appendix 2 The values of the indicators of the FoP in the V4 countries

Main Driver	Sub-Driver	Indicators	Hungary	Slovak Republic	Czech Republic	Poland	
Technology and innovation	Technology Platform	Mobile-cellular telephone subscriptions (/100 pop)	119.1	128	115.5	146.2	
		LTE mobile network coverage (% population)	98	87	99.7	100	
		Internet users (% population)	79.3	80.5	76.5	73.3	
		FDI and technology transfer (1-7 best)	4.7	5.2	5	4.9	
		Firm-level technology absorption (1-7 best)	4	4.8	5.1	4.6	
		Impact of ICTs on new services and products (1-7 best)	4.8	4.9	5.1	4.8	
		Cybersecurity commitment (0-1 best)	0.5	0.4	0.6	0.6	
	Ability to Innovate	State of cluster development (1-7 best)	3.5	3.8	3.9	3.8	
		Company investment in emerging technologies (1-7 best)	3	3.9	4.1	3.6	
		Gov't procurement of advanced technology products (1-7 best)	2.8	3.2	3	3.1	
		Companies embracing disruptive ideas (1-7 best)	2.9	3.4	3.7	3.2	
		Multi-stakeholder collaboration (1-7 best)	3.2	3.6	3.9	3.1	
		R&D expenditures (% GDP)	1.4	0.9	0.5	1	
		Scientific and technical publications (number per Billion PPP\$ GDP)	25.3	19.6	34.7	25.1	
		Patent applications (applications per million pop.)	15.76	7.45	23.32	10.35	
		Venture capital deal volume (US \$millions)	943.5	672.8	5412.7	7975.1	
		Venture capital deal volume per size of economy (US\$/GDP)	7.3	7.3	27.7	16	
	Human Capital	Current Labor Force	Manufacturing employment (% of working population)	21.4	24.7	27.3	19.3
			Knowledge-intensive employment (% of working population)	34.9	31.9	37.6	37.6
Female participation in labor force (ratio)			0.89	0.88	0.86	0.89	
Mean years of schooling (Years)			12.3	12.7	12.8	12.7	
Availability of scientist and engineers (1-7 best)			3.6	3.5	3.8	4.2	
Digital Skills among population (1-7 best)			3.3	4.7	5.3	4.3	
Migration (migrants/100000 pop)			7.6	2.8	19	-1	
Future Labor Force		Country capacity to attract and retain talents (1-7 best)	2.5	2.2	3.5	2.8	
		Quality of Universities (count)	6	1	6	9	
		Quality of math and science education (1-7 best)	3.9	3.8	4.5	4.5	
		Quality of vocational training (1-7 best)	3.2	3.6	4.8	3.6	
		School life expectancy (Years)	15.4	15	16.9	16.1	
		Pupil-to teacher ratio in primary education (ratio)	11	15.2	18.9	10.2	
		Critical thinking in teaching (1-7 best)	3.2	3	3.4	3.2	

Global Trade Investment		Active labor policies (1-7 best)	3.2	3.7	4.4	3.2
		On-the-job training (1-7 best)	3.7	4.1	5.1	4.4
		Hiring and firing practices (1-7 best)	4.5	3.1	3.3	3.4
	Trade	Trade (% GDP)	174.7	183.9	153.3	100.7
		Trade tariffs (% duty)	0.01	0.01	0.01	0.01
		Prevalence of non-tariff barriers (1-7 best)	4.1	4.5	5.1	4.6
	Investment	Logistics Performance (1-5 best)	3.4	3.3	3.7	3.5
		Greenfield Investments (US \$ millions)	3085	2025.8	3365.5	9018.8
		FDI inflows (US\$ millions)	4251.9	510.7	5018	9485.5
Domestic credit to private sector (% GDP)		34.4	57	51.2	54.6	
Infra-structure	Transport Infrastructure (0-100 best)	61	54.4	63.4	59	
	Electricity infrastructure (0-100)	78.5	100	96.5	92.1	
Institutional Framework	Government	Regulatory efficiency (0-100 best)	73.4	66.8	76.9	71.3
		Incidence of corruption (0-100 best)	48	51	55	62
		Future orientation of government (1-7 best)	3	3	3.2	3.1
		Rule of law ((2,5)-2 best)	0.5	0.7	1.1	0.7
Sustainable Resources	Sustain-ability	Alternative and nuclear energy use (% total energy use)	0.3	0.4	0.3	0.1
		CO2 intensity level (CO2 emissions in megatons/GDP (US\$ billions)	0.3	0.3	0.5	0.5
		CH4 intensity level (CH4 emissions in megatons/GDP (US\$ billions)	0.1	0	0.1	0.1
		N2O intensity level (N2O emissions in megatons/GDP (US\$ billions)	0	0	0	0.1
		Baseline water stress (Annual withdrawals, % of annual available blue water)	0.5	0.2	1.1	1.3
		Wastewater treatment (0-100 best)	84.6	86.2	89	87.4
Demand Environment	Foreign and domestic demand	Market size (0-100 best)	53.7	48.6	56.6	67.2
		Buyer sophistication (1-7 best)	3.2	2.9	2.9	3.4
	Consumer Base	Extent of market dominance (1-7 best)	3.2	3.5	4.3	4.7

Source: Own calculation based on WEF 2018

Appendix 3 The full comparison of Hungary and the Slovak Republic to the corresponding value of the Czech Republic regarding the Drivers of Production

Main Driver	Sub-Driver	Indicators	Hungary	Slovak Republic	Czech Republic	HU-CZ	SK-CZ		
Technology and innovation	Technology Platform	Mobile-cellular telephone subscriptions (/100 pop)	119.1	128	115.5	103%	111%		
		LTE mobile network coverage (% population)	98	87	99.7	98%	87%		
		Internet users (% population)	79.3	80.5	76.5	104%	105%		
		FDI and technology transfer (1-7 best)	4.7	5.2	5	94%	104%		
		Firm-level technology absorption (1-7 best)	4	4.8	5.1	78%	94%		
		Impact of ICTs on new services and products (1-7 best)	4.8	4.9	5.1	94%	96%		
		Cybersecurity commitment (0-1 best)	0.5	0.4	0.6	83%	67%		
	Ability to Innovate	State of cluster development (1-7 best)	3.5	3.8	3.9	90%	97%		
		Company investment in emerging technologies (1-7 best)	3	3.9	4.1	73%	95%		
		Gov't procurement of advanced technology products (1-7 best)	2.8	3.2	3	93%	107%		
		Companies embracing disruptive ideas (1-7 best)	2.9	3.4	3.7	78%	92%		
		Multi-stakeholder collaboration (1-7 best)	3.2	3.6	3.9	82%	92%		
		R&D expenditures (% GDP)	1.4	0.9	0.5	280%	180%		
		Scientific and technical publications (number per Billion PPP\$ GDP)	25.3	19.6	34.7	73%	56%		
		Patent applications (applications per million pop.)	15.76	7.45	23.32	68%	32%		
		Venture capital deal volume (US \$millions)	943.5	672.8	5412.7	17%	12%		
		Venture capital deal volume per size of economy (US\$/GDP)	7.3	7.3	27.7	26%	26%		
		Human Capital	Current Labor Force	Manufacturing employment (% of working population)	21.4	24.7	27.3	78%	90%
				Knowledge-intensive employment (% of working population)	34.9	31.9	37.6	93%	85%
Female participation in labor force (ratio)	0.89			0.88	0.86	103%	102%		
Mean years of schooling (Years)	12.3			12.7	12.8	96%	99%		
Availability of scientist and engineers (1-7 best)	3.6			3.5	3.8	95%	92%		
Digital Skills among population (1-7 best)	3.3			4.7	5.3	62%	89%		
Migration (migrants/100000 pop)	7.6			2.8	19	40%	15%		

	Future Labor Force	Country capacity to attract and retain talents (1-7 best)	2.5	2.2	3.5	71%	63%
		Quality of Universities (count)	6	1	6	100%	17%
		Quality of math and science education (1-7 best)	3.9	3.8	4.5	87%	84%
		Quality of vocational training (1-7 best)	3.2	3.6	4.8	67%	75%
		School life expectancy (Years)	15.4	15	16.9	91%	89%
		Pupil-to teacher ratio in primary education (ratio)	11	15.2	18.9	58%	80%
		Critical thinking in teaching (1-7 best)	3.2	3	3.4	94%	88%
		Active labor policies (1-7 best)	3.2	3.7	4.4	73%	84%
		On-the-job training (1-7 best)	3.7	4.1	5.1	73%	80%
		Hiring and firing practices (1-7 best)	4.5	3.1	3.3	136%	94%
Global Trade Investment	Trade	Trade (% GDP)	174.7	183.9	153.3	114%	120%
		Trade tariffs (% duty)	0.01	0.01	0.01	100%	100%
		Prevalence of non-tariff barriers (1-7 best)	4.1	4.5	5.1	80%	88%
	Investment	Logistics Performance (1-5 best)	3.4	3.3	3.7	92%	89%
		Greenfield Investments (US \$ millions)	3085	2025.8	3365.5	92%	60%
		FDI inflows (US\$ millions)	4251.9	510.7	5018	85%	10%
	Infrastructure	Domestic credit to private sector (% GDP)	34.4	57	51.2	67%	111%
		Transport Infrastructure (0-100 best)	61	54.4	63.4	96%	86%
		Electricity infrastructure (0-100)	78.5	100	96.5	81%	104%
	Institutional Framework	Government	Regulatory efficiency (0-100 best)	73.4	66.8	76.9	95%
Incidence of corruption (0-100 best)			48	51	55	87%	93%
Future orientation of government (1-7 best)			3	3	3.2	94%	94%
Rule of law ((2,5)-2 best)			0.5	0.7	1.1	45%	64%
Sustainable Resources	Sustainability	Alternative and nuclear energy use (% total energy use)	0.3	0.4	0.3	100%	133%
		CO2 intensity level (CO2 emissions in megatons/GDP (US\$ billions)	0.3	0.3	0.5	167%	167%
		CH4 intensity level (CH4 emissions in megatons/GDP (US\$ billions)	0.1	0	0.1	100%	N/A
		N2O intensity level (N2O emissions in megatons/GDP (US\$ billions)	0	0	0	N/A	N/A
		Baseline water stress (Annual withdrawals, % of annual available blue water)	0.5	0.2	1.1	220%	550%
		Wastewater treatment (0-100 best)	84.6	86.2	89	95%	97%

Demand Environment	Foreign and domestic demand	Market size (0-100 best)	53.7	48.6	56.6	95%	86%
	Consumer Base	Buyer sophistication (1-7 best)	3.2	2.9	2.9	110%	100%
		Extent of market dominance (1-7 best)	3.2	3.5	4.3	74%	81%

Source: Own calculation based on WEF 2018

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Evaluating the BizMOOC project *Learning to Learn* MOOC: The OpenUpEd Quality Framework in Action

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Abstract

This paper presents the concept of, and contextualises, Massive Open Online Courses (MOOCs). It subsequently evaluates a MOOC developed to address the European Commission LifeLong Learning (LLL) Key Competency of Learning to Learn during the ERASMUS+ funded BizMOOC project. The paper presents a case study example of the OpenUpEd Framework evaluating the Learning to Learn MOOC. This paper presents evidence that an evaluation framework that emphasises the “open” element of MOOC and foregrounds iterative processes to improve the development of MOOC is vital in the creating genuinely “open” resources. A growing number of businesses, higher education institutions and other stakeholders are engaged, or have an interest, in developing MOOC. This paper adds value by providing a case study example of use of a MOOC evaluation framework and analysing the results.

Keywords: MOOC; evaluation; Higher Education; Business; Quality Assurance; OpenUpEd Framework; online learning; Massive Open Online Course; Open Education

JEL codes: I23, L26

INTRODUCTION

This paper surveys and situates the concept of Massive Open Online Courses (MOOC)

and the state of the art on quality and evaluation of this type of online learning. Using a MOOC evaluation framework, originating from the European OpenupEd initiative,¹ the paper presents a case study analysis of two iterations of a MOOC developed as part of the three-year European Commission (EC) ERASMUS+ funded BizMOOC project (2016-2018).² The following analysis contributes to the identified lack of research into MOOC evaluation and provides a practical case study example of the OpenupEd Framework.

The BizMOOC project fostered relationships across business, wider society and Higher Education Institutes (HEIs) to increase collaboration and understanding of the potential of MOOC. The project produced state of art research and advice into MOOC in the form of the MOOC Book³ and also created 3 MOOC aligned with selected EC Lifelong Learning (LLL) competencies. These competencies are "...new basic skills to be provided through lifelong learning as a key measure in Europe's response to globalisation and the shift to knowledge-based economies..." (European Commission, 2006). The MOOC's development was also informed the project's research on the barriers to participation and possibilities for MOOC for businesses and other stakeholders (see Friedl and Staubitz, 2018).

The eight-fold OpenupEd Quality Framework, which informed the evaluation of the BizMOOC project MOOC, was chosen following a systematic review of existing evaluation processes and literature. The OpenupEd Framework (which comprises of course and institutional frameworks which covering pedagogical, design and technical criteria) extends the European E-xcellence standard framework, a well-known "quality model" for online learning, through systematically presenting different examples of "openness" within the MOOC context (see Jansen, 2016 and Rosewell and Jansen, 2014).

LITERATURE REVIEW

Massive Open Online Courses (MOOCs)

MOOC are simultaneously an iteration of online learning and part of the wider story of open education (see for example, Rosewell & Jansen, 2014, p.89, Weller, 2014, p.6 and p.111 citing Yuan and Powell). MOOC have received a significant amount of press, particularly focused on the potential of this type of course to "disrupt" education at scale (see for example, Pappano, 2012 citing Anant Agarwal, Weller, 2014). Indeed, 4 years after the term MOOC was first coined (see Cormier, 2008) 2012 was described as "the year of the MOOC" (Pappano, 2012). MOOC have taken several different forms since their inception, from the initial connectivist cMOOCs (see p.93, Weller, 2014) to the transmission model of learning embodied by xMOOCs to a proliferation of further nuanced variations (see Conole, 2016 citing Downes, 2010, Clark, 2013 etc.). This reflects the move of MOOC from their original "interest in the possibilities that being open and networked" and roots in open education (see p.93-4, Weller, 2014) to MOOC that are not just varied in pedagogical approach but also offer diverse interpretations of what the composites of the term mean, particularly in regard to "open."

Many universities across the world have chosen to strategically invest in the development of MOOC. Examples include MOOC as onboarding for students, offering qualifications and learning for face-to-face and distance students and increasing understanding of learners

¹ See: <https://www.openuped.eu>

² See: <http://bizmooc.eu>

³ See: <http://mooc-book.eu>

through analytics from host platforms (see Brown, 2018). Friedl and Staubitz (2018) note that although there is growing interest in MOOC from business and other sectors in using MOOC, there is also a lack of research into the needs, engagement and reasons or challenges for business. In research conducted as part of the BizMOOC project there was relatively low awareness and engagement with MOOC in Europe, with their current use largely confined to Human Resources contexts and with some employers wary of the narratives around MOOC as a panacea for all training needs (p.35-6, Friedl et al, 2015).

At the beginning of 2018 there were over 800 higher education institutions involved in the creation and facilitation of MOOC, 9,400 courses on offer and 81 million students participating in a MOOC with numbers beginning to plateau as monetisation of some MOOC or features of MOOC becomes more common (see Shah, 2018). However, despite their popularity there are a number of issues with MOOC including typical learner demographics, their inclusiveness and engagement with marginalised and underrepresented groups (see Koller and Ng, 2013 and Creelman and Witthaus, 2018). There are also concerns regarding how best to evaluate MOOC, what “high quality” means in this context and whether existing evaluation standards for online learning are also applicable to this type of course.

Defining Quality in MOOC and Open Courses

What we mean by “high quality” and the factors that determine whether a course is “high quality” or not varies (see Jansen, Rosewell & Kear, 2017, Conole, 2016, Weller, 2014). There is much discussion in the existing literature regarding both the validity of MOOC being assessed against existing online or face-to-face quality metrics and consequently what evaluation criteria are suitable for MOOC (see, for example, DeBoer, Ho, Stump & Breslow, 2014; Hood & Littlejohn, 2017 and Stracke and Tan, 2018, Weller, 2014). De Boer et al (2014) for example argues that we need to reorientate our understanding of what “enrolment, participation, curriculum and achievement” looks like within the MOOC context as current analyses, which are used to assess formal learning (either face-to-face or online), are inadequate for understanding whether a MOOC has been successful.

One example of MOOC evaluation criteria that has come under scrutiny is completion rates, which are low compared to face-to-face courses, but have slowly increased more recently, due to improvements in a number of factors including start dates and methods of assessment (see Jordan, 2014 and 2015). As Weller (2014) notes there are two possible ways forward in response to this metric. The first is to deliberately develop MOOC to encourage retention (which may be necessary in some instances) and thus build into the course a variety of different mechanisms to encourage students to move through the material in a linear fashion (e.g. certification). The second is to deprioritise retention and engage more actively in shaping the course to reflect the fact that learners use selected parts of a course (see pp. 100-104, Weller, 2014). Prioritising individual learner motivation by providing a range of different “learning pathways” or different ways of engaging with the course over the broader instructor anticipation of what or why a learner is participating in a course and the need to complete is suggested by others including Stracke (2017) and Hood and Littlejohn (2017) (see p.289 & p.10, respectively). Consequently, this also has implications for platform choice and functionality. How “personalised” can some MOOC become, for example, if platforms utilise set formats for courses or all content is not available to view immediately on sign-up or in perpetuity at no cost?

The question of defining quality echoes broader concerns with how the concept of “quality” is used within discussions of open educational resources (OER), and open textbooks more specifically. As Wiley (2015) notes “...the core issue in determining the quality of any educational resource is the degree to which it supports *learning*.” Although MOOC are not necessarily “open” (e.g. require no login to access material or have their content available on an open license so it can be reused, updated and modified) some of the issues highlighted by commentators (such as the lack of similar motivation for participating in a course) can be described in broad terms as having arisen as a consequence of a course being “open”. DeBoer et al (2014) implicitly picks up on this when noting “...the common MOOC policy of allowing anyone and everyone to register is not one that ensures common backgrounds or intentions among registrants” (p.77). Of course, this aspect of “open” enrolment is not necessarily negative; it can offer the possibility of a more diverse range of experiences being reflected in the course discussion and connect learners who may be seeking to utilise course content in similar ways. As Weller (2014) notes in his discussion of MOOC quality, “four types of MOOC learners: completing, auditing, disengaging and sampling” have been identified by Kizilcec, Piech and Schneider (p.97); these could, for example, be used to help inform the better development and evaluation of MOOC and inform the development of “learner pathways.”

Similarly, Hood and Littlejohn (2016) emphasise the multifaceted approach needed which “...recognise[s] that any attempt at categorisation must embrace multiplicity, acknowledging the diversity and often nuanced distinctions that can be made between MOOC designs, purposes, pedagogical approaches and learners” (p.4) whilst Bali (2014) argues that there is not a “genre” of pedagogy for MOOC but that each course should be assessed on its own merits, particularly given the variants in delivery, audiences, focus and pre-existing skills or familiarity with specific formats to participate (pp.44-5). It is clear that the evaluation of MOOC need to be both flexible and potentially able to de-prioritise or prioritise metrics such as retention, as suggested by Weller (2014), to reflect the pedagogy and intention of the course.

METHODS

Hood and Littlejohn (2016) note that there are currently “two broad categories” into which the emerging literature on the evaluation of MOOC can be placed: the “more general and theoretical” and “empirical research studies” that develop frameworks for assessing quality (p.11). In instances where MOOC are evaluated frameworks that are used to assess online learning more generally, rather than specifically MOOC, have been utilised (see Hood and Littlejohn, 2016, Conole, 2016 and Lowenthal and Hodges, 2015). The foci of MOOC evaluation vary. For example, both Margaryan, Bianco and Littlejohn (2014) and Lowenthal and Hodges (2015) focus on MOOC instructional design and the use of the First Principles of Instruction and Quality Matters Frameworks to evaluate 76 cMOOC and xMOOC, and 6 STEM xMOOC on well-known MOOC provider platforms, respectively. Grover, Franz, Schneider and Pea (2013) focus on MOOC being a rewarding experience for every participant, underpinned by “collective learning” and the course’s development informed by a framework that is focused on the learner’s expectations, platform, learning analytics and pedagogy. Stracke and Tan (2018) focus on developing a

“Quality Reference Framework” for MOOC through seeking detailed feedback on experiences of participating, running and developing MOOC from different stakeholders.

Whilst there are many e-learning frameworks available that are, or could be used, to evaluate MOOC, there are few frameworks that include a specific acknowledgement of the “open” facet of this type of course. The OpenupEd initiative’s framework is one such example and has an understanding of “open” that is both broad and inclusive: “...‘openness’ in the sense not only of no financial cost, but also open accessibility, open licensing policy, freedom of place, pace and time of study, open entry, and open pedagogy” (p.93, Rosewell and Jansen, 2014 citing Weller, 2013b). By foregrounding “open” the framework both avoids the blurring of “open” and no cost highlighted by Traxler (2018) whilst also encouraging MOOC creators to avoid “openwashing” (Watters, 2014). Jansen’s (2016) claims that the OpenupEd Framework is “firmly rooted in the Open Education movement” (p. 5) are therefore justifiable. Moreover, in some senses, the framework could arguably be paralleled with the other initiatives aiming to take MOOC back to roots (see, e.g. Weller, 2014, 114-5 on Reclaim Open).

The OpenupEd Framework also explicitly reflects “European values” (p.93, Rosewell and Jansen, 2014, citing Commissioner Vassiliou of the European Commission). For these reasons, argues Jansen (2016) the OpenupEd Framework was the best method to underpin the evaluation of MOOC created as part of the BizMOOC project. It also enabled comparison between the different BizMOOC courses to produce a series of recommendations and best practices (see Zur, Karwinski, Friedl and Jansen, 2018). Finally, the deliberate flexibility of the framework was beneficial to the project, which aimed to both experiment with different MOOC types and offer both non-formal and formal MOOC learning opportunities.

The “features” or “guiding principles” of the OpenupEd Quality Label, which are reflected in associated checklists/frameworks related to both the course itself and the institutional provider, are as follows:

Table 1. The distinctive features of OpenupEd MOOCs (Jansen, 2016, p. 5-6 citing Jansen et al, 2016)

OpenupEd distinctive features	Explanation
Openness to Learners	This captures aspects such as: open entry (no formal admission requirements), freedom to study at time, place and pace of choice, and flexible pathways. A broader perspective stresses the importance of being open to learners’ needs and providing for a wide range of lifelong learners.
Digital Openness	Courses should not only be freely available online but also allow application of open licensing so that material and data can be reused, remixed, reworked and redistributed (e.g. using CC BY-SA or similar).
Learner-centred approach	Courses should aid students to construct their own learning from a rich environment and to share and communicate it with others; they should not simply focus on the transmission of content knowledge to students.
Independent Learning	Courses should provide high quality materials to enable an independent learner to progress through self-study.
Media-supported Interaction	Course materials should make the best use of online affordances (interactivity, communication, collaboration) as well as rich media (video and audio) to engage students in their learning.

OpenupEd distinctive features	Explanation
Recognition Options	Successful course completion should be recognised as indicating worthwhile educational achievement.
Quality Focus	There should be a consistent focus on quality in the production and presentation of a course.
Spectrum of Diversity	Courses should be inclusive and accessible to a wide diversity of citizens; they should allow a spectrum of approaches and contexts, accounting for a variety of language, culture, setting, pedagogics and technologies.

Source: own study.

The *Learning to Learn* MOOC had two iterations: *Learning with MOOC for Professional Development* and its successor, *Digital Skills, Digital Learning*. Both iterations were self-paced, 4-week courses with a total of 12 hours study and utilised a range of existing OER as part of their development process. The courses were hosted on The Open University's OpenLearn Create platform. OpenLearn Create⁴ is a Moodle based open course platform which can be used by individuals, organisations and institutions to host openly licensed content.

Both MOOC covered topics such as "...personal development, critical thinking, interpersonal skills, career management skills and 'learning to learn' for lifelong learning" (European Commission, 2018, p. 34; see also European Commission, 2006 and Pietkiewicz, 2017) in addition to "...the ability to learn through MOOCs ... and to develop web literacies" which was particularly amplified in the second iteration (BizMOOC Detailed Project Description, 2015, p. 72 see also Friedl, 2015 and Pitt, de los Arcos, Koppel, Miani and Sancin, 2018, p.10 for both sets of learning objectives.). As "Learning to Learn" covers many core skills, the MOOC had a very broad set of target audiences, including strands from all three project target groups (Higher Education Institutions (HEI's), Society and Business) as well as potentially providing a route into the other MOOC, which were focused on intrapreneurship and innovation and were primarily aimed at business employees and employers.⁵

The course production process for all BizMOOC courses began late winter/early Spring 2017 with *Learning with MOOC...* released at the end of September 2017 and the second iteration *Digital Skills...* released April 2018. There was agreement across the Consortium to use The Open University's Learning Design principles which "...puts the learning journey at the heart of the design process" (Open University Learning Design, n.d.) and an initial workshop to share these principles and practices was held early Spring 2017.⁶ A variety of promotional strategies and activity took place to promote the MOOC to stakeholder groups.

The evaluation of the BizMOOC courses, which was based on the OpenupEd Framework, utilised a mixed methods approach and was a multi-stakeholder iterative process. The evaluation process, which can be seen in Figure 1 below, took place throughout both the development and facilitation of both iterations of *Learning to Learn*, spanning a 1-year period from May 2017-May 2018 (see Pitt et al, 2018, pp.8-9).

⁴ See: <http://www.open.edu/openlearncreate/>

⁵ See: <http://bizmooc.eu/pilot-moocs/>

⁶ See: <http://www.open.ac.uk/iet/learning-design/> and Galley, R. (2015)

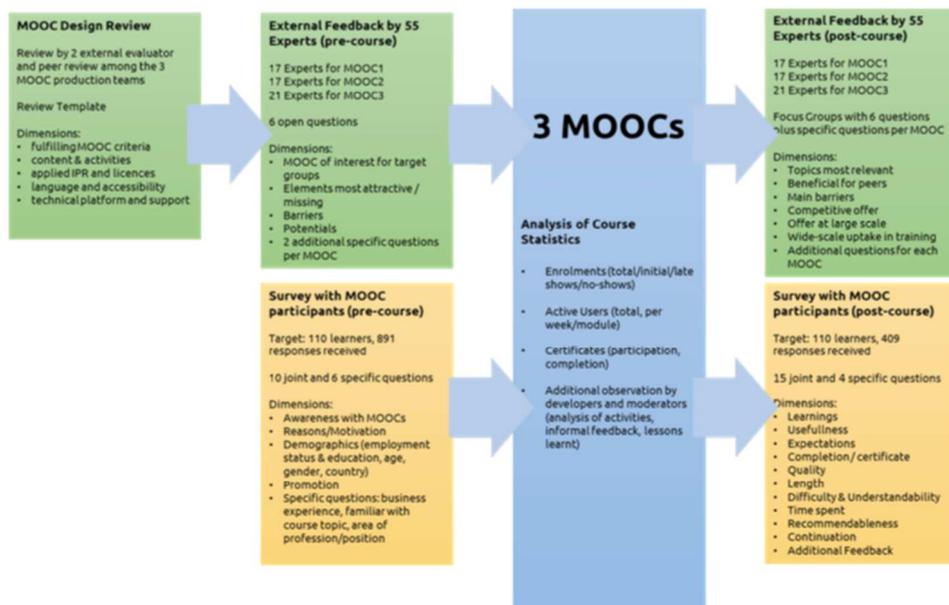


Figure 1: Overview to the BizMOOC Evaluation Process on the three Pilot MOOCs, done in a sequential mixed-methods approach. Qualitative-dominated part marked in green, quantitative-dominated part marked in yellow. See the following pages for description of each block. Source: Own work.

Figure 1. Screenshot of p27, Zur et al (2018)

Source: Zur et al (2018).

RESULTS

Table 2 presents the OpenUpEd Quality Framework in relation both iterations of the *Learning to Learn* MOOC and the OpenLearn Create platform. It summarises and categorises both how these “features” were addressed by *Learning to Learn*, based on the ‘explanations’ criteria provided in Table 1. Table 2 also presents related feedback received throughout the evaluation process (e.g. through learner surveys, design and expert reviews) and how this was addressed (where applicable) (Pitt et al, 2018). Further analysis of the evaluation processes and outcomes can be found in Pitt (2018) and Zur et al (2018). The feedback is summarised and analysed in the following section.

Table 2. The OpenUpEd Quality Framework and evaluation of the BizMOOC Learning to Learn MOOC

	Feature	How the Learning to Learn MOOC (iteration one) addresses each feature	Evaluation feedback
1	Openness to Learners	No formal entry requirements; LLL Competency “Learning to Learn” fundamental to other competencies; Created with a range of learners in mind and accessible with no prior knowledge required; Flexible in how learners could use the course but did not offer “flexible pathways”;	For most course participants this was their first experience of studying with a MOOC; Positive feedback from both post-course surveys on quality of material, relevance, self-paced nature of course, “clarity” and activities

	Feature	How the Learning to Learn MOOC (iteration one) addresses each feature	Evaluation feedback
		Open enrolment with no fixed start/end dates.	(see Pitt et al, 2018, pp. 27 & 32 & 33).
2	Digital Openness	Course created using tried and tested existing open content, where appropriate; Both iterations of the MOOC licensed CC BY 4.0. to enable reuse and remix etc. All course content immediately available to learners once signed in to OpenLearn Create. Course was originally available to anyone regardless of whether signed up or not, however the course content was then wall-gardened as this was deemed essential for analytics/tracking of how the course was being used.	OpenLearn Create sign-on process was perceived as a barrier to participation by some reviewers. This is a platform restriction and it's not currently possible to change the required information.
3	Learner-centred approach	Both versions of the MOOC were reflective courses with sharing amongst participants in forums at selected points.	External experts responded positively to course's focus on reflection, with suggestions for public sharing/examples to be included in iteration 2 (Ibid, p. 22). The course was also restructured for iteration 2 including non-reflective focused activities (see Ibid, p.23).
4	Independent Learning	OER reused in the courses had already been tried and tested. All course content immediately available to learners once enrolled onto the course. This enabled the learner to review material and choose whether/how to use it.	One focus group reported that material could be made more applicable to their context (Ibid, p. 33). Similarly, translation to other languages was also requested by reviewers. This is possible in the future due to CC BY 4.0 licensing.
5	Media-supported Interaction	4 embedded and 1 linked out video in first iteration of MOOC. There was no collaborative activity in this MOOC. Communication between participants was limited to the course forums.	Increase number of videos (now 7 embedded and 1 linked out). Inclusion of quiz in second iteration. Limited facilitation was introduced during the second iteration (facilitator activity in forums April-May 2018). Increased forum activity, a quiz and images in second iteration.
6	Recognition Options	Learners were eligible for a Statement of Participation upon completion of all course content and submission of a forum post.	Whilst expert feedback was divided on the Statement of Participation, limited post-course survey feedback for iteration 1 and 2 revealed that 85.7% (n=6) and 100% (n=4) of participants respectively, found the statement "motivating" (Ibid, pp. 27 & 32)

	Feature	How the Learning to Learn MOOC (iteration one) addresses each feature	Evaluation feedback
7	Quality Focus	The BizMOOC project had a detailed, iterative course production process in place in addition to using well-established learning design principles, and a variety of evaluative measures before, during and after the course was released. These measures included external expert feedback and feedback from learners through pre- and post-course surveys.	Learner feedback for both iterations was overall positive (see above).
8	Spectrum of Diversity	Alt-attributes were included with images. Screen reader compatible material. Course material used wide range of resources and incorporated real life experiences inc. MOOC study and MOOC resources in non-English languages in the second iteration. MOOC delivered in English but due to CC BY 4.0 license could be translated into other languages; Videos were not subtitled/transcribed. This was due in part to the tight delivery schedule for the course but also because some videos were hosted outside of the course platform.	Wider range of non-English language resources included in second iteration; OpenLearn Create currently not W3C and WCPG 2.0 compliant (the BizMOOC project ideal standard); Accessibility on some mobile devices was reported as an issue by external/internal reviewers.

Source: own study.

DISCUSSION

Assessing the “distinctive features” of OpenupEd MOOC against the *Learning to Learn* MOOC revealed the course to be largely successful and “open” to varying degrees across all 8 features. In summary:

Openness to Learners: The MOOC was a self-paced course, with no set start/end dates and no entry requirements. It was aimed at a broad range of learners but did not offer a variety of “flexible pathways” to different learners. However, all course content was immediately available upon sign-up, which enabled learners to potentially use the content as they deemed appropriate. The course content was checked to ensure that it addressed all topics agreed for the LLL competency.

Digital Openness: The *Learning to Learn* MOOC reused quality existing OER and itself was licensed CC BY 4.0 to enable reuse. Further, OpenLearn Create is available for anyone to utilise and so offers a reproducible example of a MOOC. There was no fee to participate in the course. However, what is meant by “freely available online” in this context? The Design Review was particularly focused on the “open” aspects of each MOOC and notes five areas for a course to be assessed against, one of which clarifies this requirement: “...course content is always accessible once enrolled.”⁷ As “freely available online” could be interpreted as no requirement to sign-in to access materials, BizMOOC took a more liberal interpretation of “open” which arguably illustrates an implicit tension not uncommon to OER and MOOC when

⁷ See the *Review Template MOOC Design*: <http://mooc-book.eu/index/learn-more/resources/>

needing to evaluate impact. Project requirements to track metrics such as enrolment, certification and engagement meant that, as tracking was only possible if participants were logged into the MOOC, we needed to mandate the sign-in function to access materials.

Learner-centred Approach: As all course material was immediately accessible upon sign-in learners could potentially “construct their own learning.” However, as the course was designed to be self-paced and reflective, forum contribution was built into the course at specific points. More instructor engagement with learners during the second iteration was also introduced to increase contribution.

Independent Study: The *Learning to Learn* MOOC comprised of high quality, tried and tested OER which received positive feedback from learners. Self-study was possible as the course emphasised reflection on one’s own practice and made all material available upon sign-up.

Media-Supported Interaction: As it was self-paced the course necessarily leaned more to “independent study.” Videos were included in the course content. “Interactivity, communication and collaboration” took place through forums although, aside from one contribution to a forum, there was no formal requirement to collaborate with other learners.

Recognition Options: The first iteration of the MOOC awarded a Statement of Participation for learners who completed all sections of the course and contributed to one forum. Overall participants viewed the Statement as “motivating.” Of note is that this “principle” neither advocates for course completion (which could potentially contradict encouraging multiple and learner constructed “pathways” through course content) or for formal institutional recognition of completing a course. This reflects the range of the framework’s intended users (e.g. not only institutions but individuals) but also highlights the wider issue of non-formal learning recognition.

Quality Focus: In addition to utilising tried and tested OER as part of the course, there was a “consistent focus on quality” throughout the course creation process due to iterative evaluation process outlined above.

Spectrum of Diversity: This “principle” highlights the need for “a spectrum of approaches of contexts” to be included in the MOOC. *Learning to Learn* made improvements by including a broader range of non-English language resources in the second iteration and could make further improvements to the course by translating the materials and providing transcription for some assets. Implicit in course “accessibility” is also that learners are aware the course exists and this highlights effective targeted promotion. Although compliant with some accessibility requirements, there were platform restrictions with fulfilling some criteria.

Finally, it is worth remarking on *Learning to Learn* within the context of broader evaluation metrics. Although the OpenupEd Framework does not specify a number of learners the course should enrol to be described as “massive” (the focus is on creating a course that does not become burdensome at scale)⁸ there was a target of 5000 learners for all 3 MOOC (p.24, Zur et al, 2018). 333 learners enrolled to participate in *Learning to Learn* (p.16, Pitt et al, 2018). Although this number of enrolments is low in comparison to the other BizMOOC pilots, numbers are arguably reasonable when contextualised. *Learning to Learn* was the only self-paced course in BizMOOC and compares favourably when contextualised within the average number of enrolments across 39 badged open courses on OpenLearn Create (see pp.16-17, Pitt et al, 2018). With 10.9% of enrolled

⁸ See Ibid.

participants completing the course *Learning to Learn* achieved higher completion rates than Jordan's (2014) reported average of 6.5% (see pp.16-17, Pitt et al, 2018).

Moreover, rather than choosing one or the other response to the metric of completion (see Weller, 2014), the *Learning to Learn* MOOC appears to try to satisfy both approaches by encouraging learners to complete the course through a Statement of Participation whilst also enabling participants to potentially create their own "learning pathways" by giving access to all course materials and having no official start/end date. Whilst it is difficult to know whether learners who utilised only parts of the course were satisfied with the materials (as the post-course survey was only offered to those that had gained the certificate) participants that did respond to the survey reported satisfaction on a number of different criteria (see Table 2). Enabling all learners regardless of how they use course material to feedback would be an improvement to any further iteration of the course.

Reflecting on the *Learning to Learn* MOOC within the context of the OpenupEd Framework highlights two challenges. The first is symptomatic of identifying "distinctive features" that should be applicable to all types of MOOC. As a self-paced course, *Learning to Learn* could not foreground collaborative activity as there was no guarantee of active learners at a similar stage in the course. Second, when reflecting on "features" such as *Media-supported Interaction*, it is clear that platform choice and functionality are critical. The type of platform used to facilitate a course impacts not only on what is possible during the course design process (e.g. what types of assessment and media you are able to use) but also accessibility of content for study and reuse purposes. Even OpenLearn Create, a platform with a high degree of flexibility and varied functionality, specifically designed for the delivery of open content, was still, at the end of 2017, actively working towards W3C compliance and compatibility with mobile devices, for example.⁹ This may have impacted the course's ability to offer the "freedom to study at time, place and pace of choice" which the *Openness to Learners* "feature" highlights.

Finally, reflecting on the OpenupEd Framework also highlights the main benefits of extending e-learning frameworks to broadly reflect the concept of MOOC. As noted earlier, just as "openwashing" occurs in relation to OER (Watters, 2014), so it also occurs in relation to MOOC. The OpenupEd Framework, by emphasising and grounding the framework in open education offers a valuable tool to counteract these tendencies. Further, although some "features" are open to interpretation, the OpenupEd Framework does reflect the "social justice" aspects of openness that Watters (2014) argues we should be aiming for through "distinctive features" such as "spectrum of diversity" and "openness to learners", for example.

CONCLUSION

This paper has focused on a reflective case study example of a MOOC that was evaluated as part of the BizMOOC project. By revisiting the project evaluation and the OpenupEd Framework that underpinned this process, this paper presents a clear example of how the framework's "guiding principles" help surface different facets of MOOC, and in particular its "open" aspects.

⁹ Personal correspondence between Beck Pitt and Anna Page (13 November 2017) and also <http://www.open.edu/openlearncreate/local/ocwfaqs/faq.php>

MOOC and other open learning opportunities have the potential to contribute to developing LLL Competencies in Europe and supporting business needs but care and attention to how best to serve and engage with target learner groups is needed. This requires a robust, well-developed framework and iterative evaluation. As this paper shows the OpenUpEd Framework is well placed to provide a MOOC specific framework as it's "guiding principles" are both flexible and inclusive, and informed by pre-existing knowledge.

Although focused on the evaluation of one MOOC, this paper's approach could be developed and extended to assess the other BizMOOC MOOC (which underwent the same evaluation processes) or used to assess other types of MOOC through reuse of the project's artefacts. Issues highlighted in this paper's analysis could conversely be used to refine the description of the "guiding principles."

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Case update: Whirlpool Slovakia transformation from local manufacturer to a leader in the whirlpool worldwide network

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Abstract

The fall of the Berlin Wall, the Velvet Revolution, and many other similar events ultimately led to the breakup of the Soviet Union and the opening of Central and Eastern Europe (CEE) from a planned economy, modeled after the former Soviet Union, to a free market economy. This move provided investment opportunities for MNCs around the world. Around this same time, Whirlpool Corporation, one of the world's leading manufacturers and marketers of home appliances, made a strategic decision to globalize its production and market. In pursuit of this decision, Whirlpool entered Slovakia in the new CEE market. This paper provides an update on previous case studies which described transition of Whirlpool Slovakia from a sub-standard producer of washing machines in Czechoslovakia and Poland, to where Whirlpool Slovakia is not only one of the leading producers of white appliances in the Whirlpool global value chain, but one of the models of efficiency in the production of top loader washing machines.

Keywords: CEE; Emerging Nations; MNEs; Quality Transformation; Case Report

JEL codes: M10

INTRODUCTION

The fall of the Berlin Wall on November 9, 1989 is often credited as the event that led to the fall of Communism and the impending collapse of the former Soviet Union. With the fall of the former Soviet Union, new economies opened throughout the world, but most particularly in many countries in Central and Eastern Europe (CEE): Baltic, Caucasus, former Soviet, Central, and South East European nations. Many multi-national corporations (MNCs) saw opportunities in these new economies and very quickly moved new operations there.

As the new economies of the CEE opened up, Jeffery Sachs (1990) in an article in the *Economist*, described what he said were four basic steps that had to occur for the transformation of Eastern Europe's centrally planned economies: 1. Allow prices to find market-clearing levels. 2. Remove bureaucratic restrictions on the private sector. 3. Bring the state sector under control, and 4. Maintain overall macroeconomic stability through restrictive credit and balanced budgets.

He further said, that in order for this to occur, Eastern European nations, must accept a Western-style market economy. Similarly, the West must help Europe not only transition to understand this type of economic system, but also must assist with debt relief and financial restructuring to bring Eastern Europe reformed economies as part of a unified European Market.

In the 1990s, when Jeffery Sachs made his prescription for transition from a planned economy, Slovakia was part of Czechoslovakia. Czechoslovakia, like the other nations in the CEE, were emerging from the Velvet Revolution, and were positioning themselves to enact reform that would bring about democratic reforms and a free and open economy. Countries like Poland, Hungary, East Germany had already enacted democratic measures, and nations from the Baltic states showed an optimism about the future of their nations.

It was at this time that Whirlpool Corporation in the U.S. recognized that if it wanted to survive it must embrace a global strategy. David Whitham, former CEO of Whirlpool at this time said it best:

“The only way to gain lasting competitive advantage is to leverage your capabilities around the world so that the company as a whole is greater than the sum of its parts. Being an international company – selling globally, having global brands or operations in different countries isn’t enough” (Mauca, R.F., 1994, p.136).

In pursuit of this strategy, Whirlpool entered into a joint agreement with Tatramont in Poprad, Slovakia, to produce washing machines in Eastern Europe. Over the last 25 years the agreement changed with Whirlpool becoming sole owner of Tatramont, to becoming the primary producer of top-end loader washing machine in Whirlpool and the white appliance industry, to more recently entering into an agreement to merge its operation with Indesit Company in Italy. Today, Whirlpool Slovakia is regarded as a model of production for Whirlpool worldwide. It is the second biggest production site in EMEA (Europe, Middle East and Africa) region, and the most productive plant in Europe. In 2016, it became the pilot factory in the Whirlpool global network for WCM – World Class Manufacturing, and last year was regarded as the leader to launch Industry 4.0.

The lead author of this paper has followed the transition of Whirlpool Slovakia from when it was part of Tatramont in the early 1990s to today. This author has created two

previous case studies on Whirlpool transition (Ferencikova and Pucik, 1998; Ferencikova and Brechbuhl, 1999; Ferencikova, 2002, and Ferencikova, 2011). In 2017, accompanied by her co-author, a Visiting Fulbright Scholar, she updated her case study on Whirlpool. Where these earlier case studies by the lead author described the transition of Whirlpool Slovakia, this case study describes the transformation of Whirlpool Slovakia where it is one of the largest and most efficient production facilities in Whirlpools global network.

Background

Slovakia

The region of Slovakia has a rich and interesting history dating back to the 9th century and the state of greater Moravia. For most of its existence, Slovakia was part of the greater Hungarian empire. In 1867, it became part of the Austro-Hungarian monarchy. After the collapse of the Austro-Hungarian Empire at the end of World War I, Slovakia joined with the Czechs to form the country of Czechoslovakia. At the onset of World War II, Slovakia became an independent state allied with Nazi Germany. Following World War II, Czechoslovakia was reestablished as a country and within a few years became part of the Soviet-dominated countries of Eastern Europe. The relationship with the Soviets was not always a harmonious one and attempts were made in the late 1960s to liberalize their country. However, in 1968 with the invasion by Warsaw Pact troops (Prague Spring) ended any hope of liberalization and breaking away from the sphere of the Soviet Union. Thus Slovakia, as part of Czechoslovakia, remained a puppet state of the Eastern Bloc nations “planned economy” of the Soviet Union. Slovakia continued along this economic path where all the drawbacks of the planned economy were present until 1989, when several events led to the breakaway from the Soviet Union. Although, as discussed above the fall of the Berlin Wall is often regarded as the pivotal event that led to the fall of the Communist Soviet Union, for Czechoslovakia the most significant event was the “Velvet Revolution” (sometimes called the gentle revolution). The Velvet Revolution occurred from late November to the end of December 1989, led largely by Vaclav Havel where the Communist Party was removed from power. With this separation from the Communist Party and the Soviet Union, came an opening of the former eastern bloc nations to not only Western style democracy but also a western style market economy. For Slovakia, not totally unexpected, separated from the former Czechoslovakia, on January 1, 1993. Slovakia joined both NATO and the EU in the spring of 2004 and the euro zone on 1 January 2009.

Whirlpool in Central and Eastern Europe

It was also in the 1990s that Whirlpool entered into the eastern European market. With the fall of the Soviet Union, the managers of WEBV realized that the changes in CEE brought about new opportunities, as well as challenges for their company. They were attracted not only by the possibility of gaining new markets, as well as obtaining production facilities, but also a skilled labor force. Although, many CEE facilities were historically not efficient operations, they were generally low cost in comparison to Western Europe. In addition, given the structure of formerly planned economies, they were monopolies with almost 100% share of their local markets. Furthermore, this new privatization of previously state-owned factories opened the way for potential ownership and control. However, WEBV strategy to enter this new market, was not

driven only by external reasons, it was also forced as previously discussed to look at new opportunities because of its internal problems. Also, more limited success in Western Europe than expected, disappointing operating margins, and the need to decrease costs, were all drivers to explore opportunities in CEE.

On November 20, 1991, Whirlpool Europe BV (WEBV) signed an agreement to create a new joint venture company with Tatramat. The new company would manufacture washing machines in the existing Tatramat facilities in Poprad, Slovakia and serve as Whirlpool's exclusive sales representative on the Czechoslovak market.

Whirlpool Slovakia: Previous Studies:

The lead author of this study in 1997 went to the University of Michigan as a Fulbright Scholar. In her role as a Fulbright Scholar she worked with both faculty from the University of Michigan, as well as her home institution, University of Economics in Bratislava, Slovakia on chronicling and analyzing Whirlpool Corporation entry into the CEE. The cases served a model of a multinational entry into the CEE and transitioning from planned state run enterprise to a private corporation. Specifically, the cases followed the journey that Whirlpool took in Slovakia from their initial entry into the country to the path they followed through the 1990s into 2000s. This research has resulted in several published case studies as well a book chapter (Ferencikova, 1997; Ferencikova and Pucik, 1998; Ferencikova and Brechbuhl, 1999; Ferencikova, 2001a; Ferencikova, 2001b; Ferencikova, 2002; and Ferencikova, 2011). More recently the lead author, working with her co-author, a visiting Fulbright Scholar in Slovakia, conducted qualitative and quantitative research to update her previous cases and described Whirlpool Slovakia today.

Case Study Update

In November of 2017, the authors from the study visited the Whirlpool-Slovakia, Poprad plant. The site visit included a tour of the facility as well as interviews with a number of key individuals at the plant. The site visit to Poprad also included meeting with Whirlpool suppliers, and with former leaders of the company. Following this visit and initial data collection, the authors met with the Country Sales Manager at Whirlpool in Bratislava.

From the site visit, in-depth interviews and data collection, the authors were able to develop an update of the Whirlpool Case study. In addition, the information provided insight into the challenges that Whirlpool and other MNCs face in operating in Slovakia or other CEE, as well as their prospects for the future.

Whirlpool: 2009-2016

The "great recession" impacted companies worldwide. Whirlpool, like many other companies throughout the world, were deeply affected by this economic crisis. Whirlpool saw losses in both its revenues and staffing decline during this period. In 2009, Whirlpool reported a reduction of € 1.5 million in revenues. Although Whirlpool posted a profit of € 0.4 million in 2010, sales of products (which accounted for 83% of total revenues) decreased by 5.9% year/year, while the sales of goods sank by 16.2% year/year (€ 43.4 million). In addition, Whirlpool saw reductions in its workforce: although the company employed 1,030 workers on average in 2010, this represented declines from previous years (Intellinews, 2011). See Figure 2 and 3 below:



Figure 1. Whirlpool Slovakia: Located in the High Tatras Mountains

Source: author's photo from site visit; November 20, 2017.

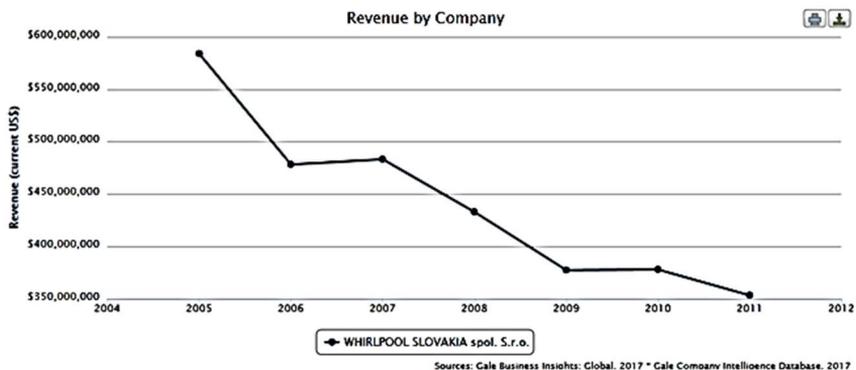


Figure 2. Whirlpool Slovakia Revenue 2004-2012

Source: own elaboration.

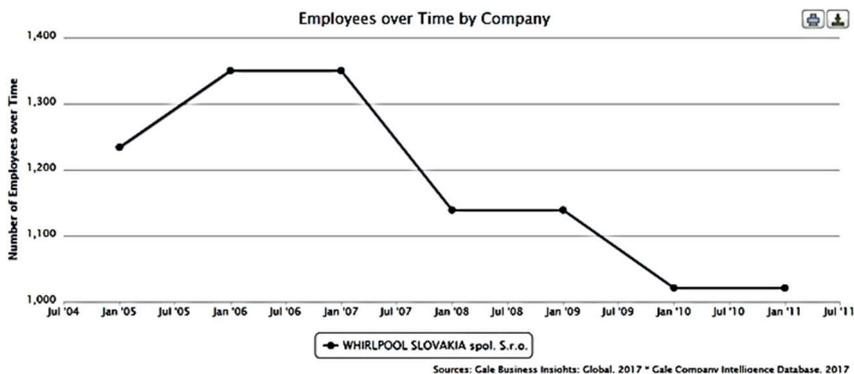


Figure 3. Whirlpool Slovakia: Employees – July 2004 – Jul 2011

Source: own elaboration.

In spite of these production and staffing decreases, Whirlpool Slovakia continued to operate and innovate with his designs. In 2009-2010 Whirlpool introduced a new design line of build-in ovens and microwave ovens CUBE. The ‘Glamor’ version, as it was called, is their first oven with full color display. Also, in the washing machine, refrigerators, and dishwasher segment, Whirlpool introduced it’s new ‘Carisma’ design, and once again, Whirlpool Slovakia was awarded the “Supplier of the Year” award by Euronics.

Following these new designs, Whirlpool Slovakia launched its new model of washing matching with the “Zen” Technology. This same year Whirlpool sold its 2 millionth appliances in Slovakia. The year 2012 was the 20th anniversary of Whirlpool Slovakia. This year saw the evolution of the “Zen” technology where it was applied to other models which gave Whirlpool washers the highest energy class (A+++). This same year Whirlpool was awarded the National Award of the Slovak Republic for Quality. The next year, in a response to consumer needs started production of the new front-loader “SLIM” washing machines.

From 2014-2016, Whirlpool Slovakia continued to grow staff and produce more appliances with most appliances being of these appliances being earmarked for exports. In 2015, Whirlpool reaching the historic level of producing more than 2.3 million washing machines per year. The company also started a new era of production by introducing World Class Manufacturing (WCM) into all production procedures and processes.

Whirlpool has focused its production on both front and top loader washing machines. The most popular top loader brands are: Whirlpool, Bauknecht, Hotpoint, Indesit, and Privileg, while the front loaders are primarily: Whirlpool and Indesit, Innex brand. Figure 4 below, shows Whirlpool Front and Top Loaders Washing Machines.



Figure 4. Whirlpool Slovakia, Poprad Plant: Front and top loader washing machines

Source: company presentation: How much productivity is enough; Poprad story.

Whirlpool Today: 2017

On June 3, 2017 Whirlpool Slovakia celebrated its 25th year anniversary since joining the Czechoslovak Tatramat production Company in Poprad. Although recognition and events went on throughout 2017, June, 2017 was the day of the official celebration in Poprad at the Whirlpool’s Poprad plant. Employees, families, partners, visitors, and community members were in attendance and hosted to a day of interactive activities, music and

food. It was also a time to showcase, not only the many accomplishments of Whirlpool over the last 25 years in Slovakia, but who they are today with its products and people.

Whirlpool Slovakia plant is located on the eastern side of the city of Poprad, which is located in the eastern region of the Slovak Republic. The city of Poprad is the jumping off point to many hiking trails and ski resorts located in the beautiful High Tatras Mountains. Poprad is a small city with a population of approximately 55,000 people. Geographically it is located 10 kilometers south of the Polish border and 150 kilometers west of the border with Ukraine.

The Whirlpool Poprad plant covers approximately 70,000 sq.meters and directly employs between 1400-1450 people over three shifts (based on interview with Whirlpool HR they currently employ 1,453 employees). Specifically, for production of Whirlpool's top-loader, it runs 3 shifts for 2 assembly lines, and 3 shifts of primary processes. For its front-loader, similarly it has 2 assembly lines of 3 shifts and 4 shifts with primary processes. Coupled with the fact that many of its suppliers are local (located in and around Poprad), related jobs of Whirlpool total another 7,500 people.

The Whirlpool Plant maximum capacity is 2.6 million units per year, with sales of \$392, 265, 359.00 in annual sales in 2016 (Mergent, 2017). Twenty-five years ago when the Poprad plant was Tatramat almost all of its units were sold domestically in Czechoslovakia. Today, Whirlpool ships more than 10,000 units of automatic washing machines daily with 98% being directed to export and 2% for the domestic market. Everyday over 42 trucks and containers are loaded with Whirlpool products. Approximately, 12% of Whirlpool products are transported by trains which leave from inside the Poprad facility. The 70,000 Square meter facility can house up to 25,000 pieces of factory finished goods (this represents approximately 2 days of production).

Figure 5 below shows the export distribution of Whirlpool units today:

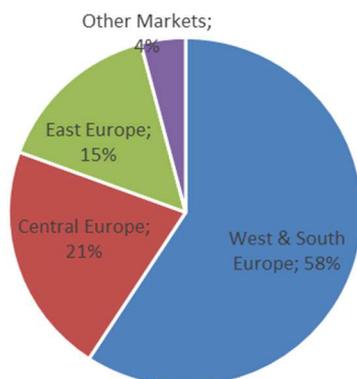


Figure 5. Whirlpool Slovakia: Export Locations

Source: Whirlpool corporation: 25 years in Slovakia.

The Whirlpool Slovakia, Poprad plant is unique on several levels in the Whirlpool Value Chain of manufacturers. First and foremost, the Poprad plant is the only Whirlpool plant in Europe that produces “top-loaders”. Second, it is recognized as the top producers of Whirlpool products, not only in Europe, but throughout the EMEA (Europe, Middle East and Africa) region. Third, and very important it is not only regarded as a model of

efficient, quality production in the Whirlpool chain of manufacturers, it had been targeted as the pilot to introduce World Class Manufacturing (WCM) production program.

This latter point is quite significant and should not be quickly passed over. In the 1990s Tatramat and Whirlpool-Slovakia had just come out of over 50 years of Soviet planned economy. In those early years, Whirlpool/Tatramat was producing sub-quality machine, at low capacity primarily for their home market. At that time, they had very limited experience with foreign operations, building new operations and greenfield ventures, nor did they venture far from a small venture in Italy. Overall, they had lower market share than expected, lower profitability, and generally higher costs for operations. Adding to this the competition in Europe was much more intense than they had expected. From this, in 25 years Whirlpool-Slovakia became a model for quality. Although other quality measures were used, WCM was their path to quality.

Whirlpool, WCM and Path to Quality

The WCM is a process-driven approach that establishes the highest global manufacturing industry standards for integrated management of manufacturing plants and processes. Briefly, it is a pillar-structured system based on continuous improvement with a goal to eliminate waste and loss from the production process. This is done by identifying varied objectives; e.g., zero injuries, zero defects, zero breakdowns and zero waste. The main parameters for determining world-class manufacturers are quality, cost-effectiveness, flexibility and innovation. Audits are used to certify improvements and to evaluate selections of the WCM pillars. From this an overall score or level of excellence for each plant is calculated: Gold (80 points), Silver (60 points) and Bronze (50 points).

In May 2017, Whirlpool Slovakia received 18 points in its initial Audit. It should be noted that 18 points is well above the plants that have done this audit in the last 10 years. This is a great achievement for a first-time audit, considering that the most proficient (fast moving) plants entering WCM for the first time on average score 17 points (Whirlpool 2017). The auditor further highlighted the fact that, “coming from our previous Lean Program, the industrial site in Poprad has a very good basic WCM knowledge and mindset, and that the Bronze level can be achieved by 2019”. (Whirlpool, 2017).

During the authors site visit, evidence of the WCM system, as well as ‘innovation 4.0’ could be seen throughout the plant - every doorway, every wall, every room, had instructions on the WCM process and what was being done by the various team in pursuit of it (See Figure 6). The authors were also shown the ongoing ‘real time’ monitoring that was implemented at the Poprad plant: almost every aspect of the production process was being monitored by blue tooth technology in order to improve the manufacturing processes from filling an order to driving a forklift.

The authors’ interviews with key stakeholders highlighted numerous qualities that made Whirlpool Slovakia unique and special, however, an overriding response, whether you spoke with a director or one of the line staff was its “people”. Several of the interviewees stressed the values of the individuals working at Whirlpool and their sense of being part of a larger family. This is demonstrated in not only their sense of volunteerism and devotion to the company, but also the community. Also, this sense of volunteerism and giving back to the community is not only encouraged and supported, but there is an additional benefit – Whirlpool employees are given ‘tax breaks’ based on the volunteer hour served.



Figure 6. Quality is everywhere in Whirlpool Slovakia, Poprad

Source: author's photo from site visit; November 20, 2017.

In previous research, the authors have examined Italian Industrial Districts (ID). Although Whirlpool and their facility in Poprad are not part of a designated industrial zone, nor are they composed of small to medium size enterprises (SMEs) working together, similar to Italy's ID, there is an overriding concern and commitment to the welfare of the community. This is not only demonstrated in the values of the people who work there, but also in the many local suppliers who provide and support Whirlpool's mission. Almost all these suppliers were former Whirlpool employees who spun off to form their own enterprises and either were a sole supplier to Whirlpool and/or Whirlpool was their primary customer. Items such as washing machine cabinets, iron drum, painting, stabilizer, rubber, plastic and aluminum parts, and packaging were all supplied by varied suppliers to Whirlpool that were once working for the company.

Although Whirlpool Slovakia has over 158 suppliers, most (69%) come from eastern Europe with 40 percent from a co-location supply base. This is significant in creating the vertical integration that allows for local control over its supply chain, which ultimately translates to competitive advantage for Whirlpool Slovakia. Below, Figure 7 shows Whirlpool Slovakia Supply Base.

It is also important to note that beyond the production of Whirlpool brands; e.g., Whirlpool, Kitchen Aid, Hotpoint, Indesit, etc., the Whirlpool Slovakia Poprad plant produces many of its "competitors' products" (e.g., Kenmore, GE, Bosch, etc.). The production process of Whirlpool brands and its competitors is done, side-side-side with the production of their own products. Like the Whirlpool products, the competitors' products are shipped daily from the Poprad plant headed to different markets throughout Europe.



Figure 7. Whirlpool Slovakia Poprad supply base

Source: company presentation: How much productivity is enough; Poprad story.

Within the Whirlpool models of Kitchen Aid, Hotpoint, Bauknecht, and Indesit, they are addressing the varied price points of their consumers: high, middle, and low. However, the new focus, in conjunction with its WCM program, is to raise the quality of ‘all’ of its brands to achieve competitive advantage. For example, where their Indesit model has been primarily directed to lower price consumers, Whirlpool Slovakia are working to raise the standards and in time the cost of providing higher end models with this design.

Another example of the Whirlpool Slovakia plant in investing in its workforce, was the HR process to hire within for promotion, and their overriding commitment to training. Whirlpool Slovakia, like other similar facilities uses professional development plans for employee assessment. However, this plan is strategically focused as part of the individual’s career compass. By the way, these career plans and extensive focus on training applies to all levels of the organization – from top to bottom! Also, having mentors/coaches is part of not only the orientation period, but well beyond.

With all of this said, it should also be noted that where ‘people’ are one of the leading forces that have made Whirlpool Slovakia different, it is also a growing concern, or more specifically, keeping this asset. In interviews we learned that although Whirlpool employees are paid the going rate for new employees in the region (somewhere € 425 - 480/monthly), with the coming of new automotive plants, there are promises of higher wages. Thus, there is a fear that their valued employees will leave. One of the attractive features of the CEE, and in particular Slovakia, is the cost of labor. However, with increased industries moving into the region, salaries become a competitive tool used by companies to hire employees away from Whirlpool and other similar companies.

Closely related to this is the importance of having trained employees for their varied positions. Although Whirlpool has their own training program for employees, many employees have only a basic education and lack the knowledge and skills to do many of computerized jobs that are required in the highly technologized Poprad plant. In several interviews, the interviewee voiced that the “schools in Slovakia are not preparing the workforce” for the jobs for tomorrow.

An irony that is found at Whirlpool Slovakia, that can also be found in other long-standing companies in other countries, is the Government offers incentives to attract new businesses and organizations; however, established companies that have been contributing to the economy over many years receive no special treatment or benefits.

In addition to these challenges, the most daunting is adapting to their new ownership structure under the Indesit corporation. We were told when negotiation for this merger was initiated it was thought that the companies would quickly and easily merge together. However, two-years out with final negotiations in sight, it has been anything but easy. With mergers, you not only must assimilate the practices and policies of the buying company, but often their culture. Although Whirlpool Slovakia has a long history working with Italy, it brings different values and different goals to the Slovakian plant. Also, with mergers there always is a sense of uneasiness until the merger is fully implemented.

Whirlpool Slovakia has been in operation for 25 years. In this time, we have seen a transition from a planned, state-owned enterprise to a private, for profit multi-national venture. Although there has been both up and downs economically, as the case study illustrates, the future appears bright: revenues, staffing, production is all up. The Whirlpool Slovakia plant has demonstrated a successful model for other MNC in Slovakia and throughout the CEE. This is especially important as members of the CEE break away from the strong force of the European Market.

SUMMARY

Events over the last decade has challenged the growth of the CEE countries: the deep worldwide economic recession in 2008-2009, lingering recovery from the great recession, uneasiness that there will be further economic downturns, etc. More recently we have seen dramatic shifts in economic and political policies in both Western and Eastern Europe, and the U.S. Beginning with the passage of Brexit in the U.K., to the election of Donald Trump in the U.S. to the rise of nationalistic parties throughout Europe and many countries in the CEE. Steadfast CEE members of the European Union (EU) such as Poland, Czech Republic, Hungary, have elected right wing governments and have moved away from Brussels and the E.U. Several countries, especially in some of the former Soviet nations, have elected autocratic leaders, and countries such as the Ukraine finds itself in a state of war with the cession of Crimea as part of Russia.

It appears that some of the hope and dreams of a market economy and free trade a quarter of century ago are being interrupted by concern over globalization and its effect on workers in the CEE, and the rise of refugees migrating to the Euro and Eastern European nations from conflict-ridden regions in the world. Although there are these fissure for many CEE nations with Brussels and the European Community, some of the CEE countries such as Slovakia have continued to embrace their membership in the EU and economic reform.

In order to better understand Whirlpool Slovakia's growth, and transition from a production facility in the new markets of the CEE, to being not only a major production facility in their global value chain, but a model for Whirlpool's other facilities on production and quality, the author's conducted a brief review of the literature.

The early literature on MNCs and their subsidiaries, spoke about the 'parent-subsidiary' relationship and the fit between an organization's structural form and corpo-

rate strategy. However, most of this literature review primarily focused on the corporate structure and less the subsidiary (Chandler, 1962; Daniels, Pitts & Tretter, 1984; and Egelhoff, 1982). This way of thinking would be consistent with the process school (Bower, 1970; and Prahalad, 1976) where the parent corporation largely defines the structural context for the subsidiary. However, the parent corporation does not always determine the subsidiary structure, and in fact, actions of the subsidiary, as well as external events, can also greatly influence, if not determine the shape of the subsidiary structure (Burgelman, 1983). This is especially true in the case of the global industry where you might expect to see differentiation of structural context and in some cases of relatively autonomous subsidiaries (Ghoshal, 1986). Whirlpool Slovakia evolution from early 1991 and the multiple events leading to and following Whirlpool entry in Slovakia to the present, is a prime example of this differentiation with an MNC subsidiary.

In pursuit of better understanding Whirlpool evolution in the context of the literature, Birkinshaw and Morrison (1995) conducted a study on the configuration of structure and strategy in regard to MNC subsidiaries. From their literature review and empirical study, in which they examined how structural context varied across subsidiary role type, they proposed a three-fold typology for MNC subsidiary (Birkinshaw and Morrison, 1995). The three-fold typology were: a) local innovator; b) specialized contributor; and c) World Brand.

Figure 8 below displays this three-item typology of subsidiary roles and shows some of the prior typologies from the literature related to it.

Table 8. MNC subsidiary strategy typologies

	<i>Local Implementer</i>	<i>Specialized Contributor</i>	<i>World Mandate</i>
White & Poynter (1984)	Miniature Replica	Rationalized Manufacturer Product Specialist	Global Mandate
D'Cruz (1986)	Branch Plant	Globally Rationalized	World Product Mandate
Barlett & Ghoshal (1986)	Implementer	Contributor	Strategic Leader
Jarillo & Martinez (1990)	Autonomous	Receptive	Active
Gupta & Govindarajan (1991)	Local innovator Implementor	Global Innovator	Integrated Player
Roth & Morrison (1992)		Integrated	Global Subsidiary Mandate

Source: Adapted from: Birkinshaw, & Morrison. (1995) Configurations of Strategy and Structure, *Journal of International Business Studies*, Fourth Quarter, 26 (4); p 733.

The Local Innovator

The local innovators or implementers subsidiaries are described as having limited geographic scope and a severely constrained product or value-added scope where the range of valued adding activities was in that country. Their strategy has little functional scope (they implement) and their primary role is to adapt the global products to the needs of the local market.

When we look at the early years of Tatramat and later Whirlpool, we find a company that had limited market (mostly its home country of Czechoslovakia, and some of

Poland, and Italy), and limited products. The MINI, the top loading washing machine, which represented over half of all the washing machines produced at the plant almost exclusively were sold in Czechoslovakia (95%). Also, it had questionable value-added scope, especially as it expanded to other markets (it was too small, lacked in quality, etc.). In addition, their capacity was limited and even after the Philips white appliance division acquisition in Europe, the results were not all what was expected: they had lower market share, lower profitability margins, production capacity was not sufficient, and overall higher costs for production. Moreover, they found that that competition in Europe was much more intense than expected.

These local innovators or implementers subsidiaries can often be ethnocentric in their approach, thus appealing to their own market and not others. In the case of the Whirlpool Slovakia facility, this ethnocentric approach could be seen not only in its market approach, but also in the focus on the production of a single model for many years. In addition, Whirlpool in the early years was not acquainted and skilled with the Western way of business.

The Specialized Contributor

The specialized contributor subsidiary over the years has developed considerable expertise in specific functions or activities. According to Roth & Morrison (1992), it is characterized by a narrow set of value activities and high levels of interdependence with affiliated subsidiaries. In these subsidiaries you will find high integration and low local responsiveness (Jarillo & Martinez, 1990). They, the subsidiary, becomes 'product specialists'.

In applying this to Whirlpool Slovakia, we saw an evolution both in products and its facility over the years. In the early years, the plant's strategy was to produce products for their local markets. Over the next few years their strategy moved to producing front loaders for Western Europe in Poprad. However, beyond developing the structural facility, it took some time until they learn how to operate in the new market environment that was the CEE and Slovakia.

In becoming a specialized contributor, they started to move away from the front-end loaders, exclusively, and started to focus their production and rework their strategy towards "top-end" loaders. By creating this specialty system for the production of top-end loader, they were able to perfect this production and enhance it with front-end loaders.

Bartlett and Ghoshal (1986) and Gupta and Govindarajan's (1991) spoke to the nature of subsidiary and predominately the approach they take: ethnocentric or 'polycentric' in order to implement their strategy. As Whirlpool Slovakia started to expand its strategy and production beyond its local region, it broke away from this more ethnocentric approach. They geographically and strategically created a hub for washing machines throughout Europe from their Poprad subsidiary.

The World Mandate

According to Roth and Morrison [1992] the World Mandate, MNC Subsidiary type (the third, of the three-fold typology for MNC subsidiary), "works with headquarters to develop and implement strategy" (1992: 716). For this subsidiary type, according to Roth and Morrison (1992) it has worldwide or regional responsibility for a product line or entire business. Also, it has a decentralized centralization and is managed from the subsidiary and not the corporate office. Bartlett and Ghoshal's (1986) termed this entity as a strategic leader.

In looking at Whirlpool Slovakia in 2017, although it works with corporate, primarily Whirlpool Europe B.V., it has its own centralized manager of its products and production. In addition, over the last decade, Whirlpool Slovakia strategy has increasingly been one of independence. Although, as previously noted, it continues to work with corporate (WEBV) on specific programs, it has become a 'strategic leader' among Whirlpool global network.

Barlett and Ghoshal (1986) go on to state that the strategic leader operates in a strategically important market and has high levels of resources and expertise. As we look at Whirlpool Slovakia they have become the designated leader to pilot the implementation of Corporate Whirlpool WCM Quality program and Industry 4.0. In addition, they are the second biggest plant in Europe, Middle East and Africa (EMEA), and the most 'productive' in Whirlpool global network. In pursuit of ensuring its own independence, Whirlpool Slovakia, has taken the lead to ensure that its community members are trained and have set up their own training facilities. In addition, they have localized many of its' suppliers, thus adding further to the path of being an autonomous entity.

Birkinshaw and Morrison (1995) says: "World mandate subsidiaries appear to be highly autonomous in terms of product flows but configured internationally; specialized contributors are integrated in terms of both product flows and configuration of value-adding activities; and local implementers are integrated in terms of product flows but configured domestically." (1992: 747).

As we look at Whirlpools transition over the last 25 plus year we can see how it has progressed from the role of a local innovator and implementer of washing machines for Czechoslovakia and Poland to its current operation of being a leader among Whirlpool producers worldwide.

In closing, the case of Whirlpool Slovakia illustrates how a MNC in 25 plus years has created not only a profitable, productive company in the former East, but a model of excellence for other Whirlpool manufacturing centers worldwide. In the past quality, was something that was associated with only developed nations; today, it is something that can be found in the developing nations of the East, and in particular Slovakia. However, for this trend to continue the government needs to take a proactive strategy to keep its workers and its most talented individuals home. In addition, the recent tariffs implemented by the U.S. (and countered by the E.U.) pose a great risk to Whirlpool and Slovakia. Although some of these tariffs (U.S. tariffs on washing machines) were initially applauded by Whirlpool Corporate HQ, subsequent tariffs on aluminum and steel by the U.S., has been met with shock by a host of industries and have resulted in decreased quarterly earnings for Whirlpool Corporate. There is talk that these tariffs could spread to other goods such as automobiles. With Slovakia being a leader in the production of automobiles, tariffs such as this poses a tremendous risk for the country's economy, as well as economies throughout Europe and beyond.

Therefore, this movement away from free trade, as well as the introduction of artificial intelligence, nationalistic endeavors, and potential election of autocratic regimes not only threaten the economic reforms that have transformed the former planned economies of the East to progressive economies of the future, but the world economic order that was created post WWII.

RESEARCH QUESTIONS

1. What are the greatest challenges for Whirlpool Slovakia in the near future? List both internal and external challenges and their potential impact?
2. How can Whirlpool Slovakia continue its rise to being a leader in the worldwide Whirlpool network?
3. What makes Slovakia a better place to invest and bring in a MNC than some of the other CEE nations?
4. Discuss what you feel Slovakia and Whirlpool Slovakia needs to do to ensure its future success?

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Exploring entrepreneurial intentions of students: International perspective

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Abstract

The purpose of the paper is firstly to identify the entrepreneurial intentions of students from two countries: Poland and Thailand. Secondly to assess the contribution of these universities in enhancing entrepreneurial intentions amongst students through entrepreneurship education and training programs. The Polish students represent Warsaw School of Economics (SGH) whilst Thai students represent Kasetsart University (KU). Paper questionnaires were used to survey students studying at both Universities. Participation in the survey was voluntary. The study confirms that entrepreneurial education can positively reinforce student attitudes towards an entrepreneurial career choice within countries like Poland and Thailand. It is also apparent that students at SGH had more exposure to informal education than those from KU. The research findings are of interest to academia and policy makers. The study suggests that entrepreneurial attitudes amongst Polish and Thai students can be influenced by exposure to entrepreneurship education. Overall, the study indicates a need for entrepreneurship education, at programme and course levels, to nurture entrepreneurship among students in Poland and Thailand. This research may contribute to the growing body of knowledge that has begun to explore intentions of individuals for self-employment.

Keywords: entrepreneurial intentions; entrepreneurship education; students attitudes

JEL codes: I21, I23

INTRODUCTION

Entrepreneurship is recognised globally as a critical economic development strategy for job and wealth creation. There has been a stream of research that has looked into the importance of higher education in influencing potential entrepreneurs.

The demand for including enterprise and entrepreneurship studies in the education system, at all levels, has gained much attention from academia and societies all over the world. This prolonged and heightened interest in entrepreneurship is prompted by several factors. First, for developed economies, entrepreneurial activity [new venture formation] is a means of revitalizing stagnated economies and of coping with unemployment problems by providing new job opportunities. Moreover, entrepreneurship is a great force for economic growth, recovery and societal progress in terms of employment, social empowerment and innovation [Soomro & Shah 2015]. However, it has a more critical role for economies of developing countries since entrepreneurship is seen as an engine of economic progress, job creation and social adjustment. Due to the strategic role of entrepreneurship in economic development, entrepreneurship, enterprise development and entrepreneurship education and training (EET) have been embraced by major global development organisations, including the United Nations, the World Bank, the International Labour Organisation (ILO) and the World Economic Forum (Bhat and Khan, 2014; Mundy and Verger, 2015).

Although many universities in the world offer courses on entrepreneurship, little evidence is available about students taking these courses and their intentions to become entrepreneurs [Basu & Virick 2008].

Roxas et al. [2008] claim that knowledge gained from formal entrepreneurship education programmes will boost individual entrepreneurial intentions. It is argued that a country's development and economic growth can be achieved by promotion of enterprise education among students at rate that requires knowledge of entrepreneurship, financial resources and the business environment [Milius & Sarkiene 2008]. The review by Gorman et al. [1997] indicates that by aligning education with entrepreneurship, countries lacking resources and employment opportunities can foster entrepreneurial attributes, and the potential of students, which in turn could bring several economic benefits.

The aims of this research are twofold. The purpose of this paper is firstly to identify the entrepreneurial intentions of students from two countries: Poland and Thailand. Countries are represented by students from Warsaw School of Economics (SGH - Poland) and Kasetsart University (KU - Thailand). Secondly we want to assess the contribution of these universities in enhancing entrepreneurial intentions amongst students through entrepreneurship education and training programs.

The remainder of this study is structured as follows. Section 2 reviews the literature on the state of entrepreneurship in Poland and Thailand, followed by the development of research questions, research design and methodology in section 3. The empirical results and discussion of the findings are presented in section 4.

THEORETICAL BACKGROUND

Entrepreneurship in Poland and Thailand

Research literature reveals entrepreneurship as a socioeconomic force, a state of mind in the business economy which can generate employment opportunities, particularly new businesses, via intuitive ability, instincts, unique values, attitudes and skills [Acs & Megyesi 2009; Azhar et al. 2010; Johansen et al. 2012]. The impact of entrepreneurship is always seen as positive in the economy.

With the increasing expansion of the European Union it is essential that member states network and share their expertise and talent. In 2004, Poland and nine post-communist states became an integral element of the European Union [Nikodemaska-Wolowik, 2006]. Countries such as Poland offer several advantages for business including a competitively priced and educated workforce, proximity to the centre of the EU and a huge indigenous market [BIM 2006; Por & White 1991]. Since the collapse of communism in Eastern European countries, expectations were raised within the population of improved standards of living [Foley et al. 1996; Reichal & Rudnicka 2009].

Poland has historically faced high unemployment [18.2% in 2005, the highest in the EU], corruption, excessive bureaucracy and migration of skilled workers to other EU member states, issues which remain ongoing concerns [Smallbone & Welter 2001]. The ongoing decline of the public sector controlled coal mining industry has caused further problems in the Upper Silesia region which has been criticised for its lack of entrepreneurial activity, although benefiting from EU assistance [Blazyca et al. 2002]. There have, however, been some major improvements [Kostera 1995]. For example, Poland has benefited from significant foreign investment from major manufacturing companies including Fiat, Hewlett Packard, Toyota, Cadbury, Dell and Sharp [Foley et al. 1996; Packham et al. 2010] aiming to capitalise on the lower operating costs. Moreover, Waters [1999] notes that there has been significant growth within the retail service sector driven by the introduction of multinational companies such as Tesco, Unilever, Jeronimo Martin Dystrybucja, to name just a few. Currently the unemployment rate is 7.7%.

According to the Central Statistical Office, one-third of currently operating Polish companies are run by people who are under 30 years of age. Despite all the difficulties and concerns, more and more people decide to start their career in their own company. According to research conducted by the Foundation for Initium, as many as 78% of students would like to start their own company, and 4% already are the owners of them [Chmielniak 2013].

During the last 30 years, Thailand's economy has changed dramatically: from exporting primarily raw commodities such as rice and rubber to becoming one of the world's largest exporters of hard disk drives, integrated circuit packages, cars, and auto parts. Electrical, electronic and automotive products now comprise about 40% of Thailand's exports.

Thailand is perceived to have been slow in developing entrepreneurship because of a culture that was based largely on agriculture (Swierczek and Jatusripatak, 1994). Also, Thailand has had a pattern of Chinese immigration in its history. The cultural disposition of the indigenous Thai is a tendency to be satisfied with his or her immediate needs, content with his or her fate, uninterested in money or economic advancement, conservative and accepting of dependency (Rajadhon, 1968, p 34). However, another side to

this disposition is that the Thai people are very receptive to new things. Thai people, though conservative, adopt new things without selection and adaptation (Rajadhon, 1968, p 35; Swierczek, 1992). Entrepreneurship in Thailand has developed quite favourably over the past two decades (Maitree, 1999).

Compared with Vietnam, the Kingdom of Thailand is home to a large and growing number of very successful entrepreneurial firms, which are undoubtedly a factor in the continuing growth of the economy (Box, Beisel and Watts, 1995). Entrepreneurship has long been the main vehicle of Thai economic growth. However, entrepreneurship in Thailand is hampered due to ineffective enterprise education and a lack of qualified management. The economic crisis in mid 1997 had serious, negative impacts on the Thai economy. Thus, the government and other related agencies initiated several projects and activities to help strengthen and promote entrepreneurship in the country (internationalentrepreneurship.com, 2010).

Enthusiasm for entrepreneurship is well represented in Thailand, being now home to a booming ecosystem supporting and revolving around start-ups and entrepreneurs in the tech sector as well as in several other industries (<https://www.gemconsortium.org/country-profile/114>, access 10.07.2018)

Entrepreneurship education

Entrepreneurship education is a form of education in which the recipients of the education are equipped with entrepreneurial competencies with the aim of making the recipients more conscious of the context of their environment and better predisposed towards seizing opportunities in the pursuit of social and economic activities [Elmuti et al., 2012; Malach and Malach, 2014].

Entrepreneurial education is perceived as one of the most important challenges of modern educational systems and socio-economic development [Wach 2016]. Although entrepreneurial education is currently a hot topic in the literature on entrepreneurship worldwide, it is only an emerging subject in Poland, although it is increasingly undertaken by researchers in various fields [Wach 2016].

Entrepreneurship education is a structured, formal conveyance of entrepreneurial competencies (Alberti et al., 2004; Young, 1997) and involves the process of providing individuals with the ability to recognise commercial opportunities and the insight, self-esteem, knowledge and skills to act on them (Jones and English, 2004).

According to Reynolds et al. [1999] appropriate education and training programs in entrepreneurship are expected to increase the number of people becoming entrepreneurs because the better educated the population the higher the level of entrepreneurial activity. There has been a notable expansion in the number of entrepreneurship programmes globally in recent times [Katz 2003], although participation does not always lead to nascent entrepreneurship [Kuratko 2005; Matlay & Carey 2007]. This has often been driven by the belief that education is best placed to equip students with the necessary knowledge and skills required to prosper in working environments [Adcroft et al. 2005]. In terms of the entrepreneurial experience however, there is ongoing debate regarding the essential attitudes towards education components of an effective entrepreneurship education programme [Pittaway & Cope 2006]. Indeed, Anderson and Jack [2008] argue that entrepreneurship education is a difficult area to lecture on due to its variability, complexity and contingency.

Gibb (2002) argues that entrepreneurship education needs to move away from an emphasis on functional subject matter to the development of behaviors, skills and attributes better adapted to the entrepreneurial “way of life.” “This necessitates abandonment of the notion that all teaching has to be “instructional” and controlled and that all learning takes place in the classroom”(p.139).“This means recognition of the fact that most of the learning that will take place is through relationships with the relevant stakeholder environment”(p.144).

Representatives of different jobs like doctors, farmers and painters decide to study business to help move forward through difficult and challenging economic times. Entrepreneurship education is needed in any kind of profession, as no one knows at which stage of life they will become an entrepreneur.

The aim of teaching entrepreneurship (education for entrepreneurship) is to promote creativity, innovation and -employment [Garavan & O’Cinneide 1994; Wach 2013], and includes:

- developing personal qualities and skills that underlie entrepreneurial spirit and entrepreneurial behaviour, creativity, sense of initiative, risk taking, independence, self-confidence, leadership, team spirit),
- raising awareness of students about self-employment and entrepreneurship as well as career opportunities,
- working on specific business or business projects, providing specific business skills and knowledge about how to set up and run your own business.

Social skills and competencies have become a fashionable field within managerial education, not only at business schools and universities but also in training companies’ programs. Today, more people recognise the importance of “soft” skills in different areas of business life. Communication skills, cooperation, commitment and loyalty are factors difficult to identify or create in the organizations but they have a strong impact on how it functions [Brzozowska et al. 2014].

RESEARCH METHODOLOGY

The research was undertaken at Warsaw School of Economics in summer semester of May 2016 and Kasetsart University (Bangkok) in Thailand in the summer semester of May 2017. The students at both Universities were asked to complete a paper questionnaire about entrepreneurship. Students were assured of anonymity in the reported results and could withdraw their participation at any time. As a pilot, an online version of the questionnaire was sent first to five students and five other teachers to check whether the questions are properly understood and to check validity.

Warsaw School of Economics

Warsaw School of Economics is considered to be one of the best business-oriented universities in Poland. It is known for its connections with businesses, and associations to international organizations. There is a very strong link with businesses that is visible through courses run by academic teachers and managers from companies. Moreover student organisations are very active in organising events like the Marathon of consulting firms or exhibition days. Students aim to create a platform of communication between the best

students and market leaders, and they highlight that international corporations are the best places to start their business career¹. In such situations the issue of starting their own business seems to be put under a question mark. "What career path should I follow...?" seems to be an interesting question for both SGH and Rzeszow University students.

The presence at SGH of global companies like McKinsey, Procter and Gamble, L'Oréal Polska, Deloitte or Ernst and Young is a confirmation of the high level of teaching and high calibre of students. Companies have the opportunity to engage with potential employees and students can acquaint themselves with the business world. The relationship is beneficial to both parties.

Kasetsart University Bangkok (Thailand)

Kasetsart University is a public research university in Thailand. It is ranked in the 651-700 tranche in the QS World University Rankings 2015/16. Kasetsart is ranked 29th in Agriculture and Forestry worldwide in the QS World University Rankings 2017 (<https://www.topuniversities.com/university-rankings/world-university-rankings/2015#sorting=rank+region+=country+=faculty+=stars>, access, 15.05.2018). It was the first agricultural university and the Thailand's third oldest university and the oldest agricultural university in Thailand. It was established on 2 February 1943, to promote subjects related to agricultural science. Since then, Kasetsart University has expanded its subject areas to cover economics, business administration, veterinary medicine, engineering, science, social sciences, humanities, education, and architecture.

Sample

The study involved 606 students. The research was conducted at two universities: in Bangkok at Kasetsart University - KU where students constituted 49,5% of the respondents and in Warsaw (Warsaw School of Economics -SGH) where students constituted 50,5%. The proportion of female students and male students was around 50% in Polish sample in the Thai group of students 78% were female and 22% were male. The most-represented discipline is Finance in the Polish sample (49%) and Quantitative methods (20%). Other disciplines include economics, e-business, econometrics, computer science and data analysis. The sample of the Thai group is more diversified. The most-represented discipline is economics represented by 28% of students, Management 14% and 9% by agriculture sciences. The two groups are presented in Figure 1.

The research questions are as follows:

1. What are the attitudes of students (of both Universities) towards entrepreneurship? (i.e. are they interested in setting up their own businesses after graduation?)
2. Does the university education of students influence their attitude towards entrepreneurship?
3. What kind of activities are students undertaking to enhance their entrepreneurial attitudes?

The null and alternative hypotheses are as follows:

H0: Entrepreneurial attitudes of students in Poland and Thailand are quite similar.

H1: Entrepreneurial attitudes of students in Poland and Thailand are different.

¹ Exhibition leaflet, Exhibition of FMCG, prepared by the Students' Association at SGH

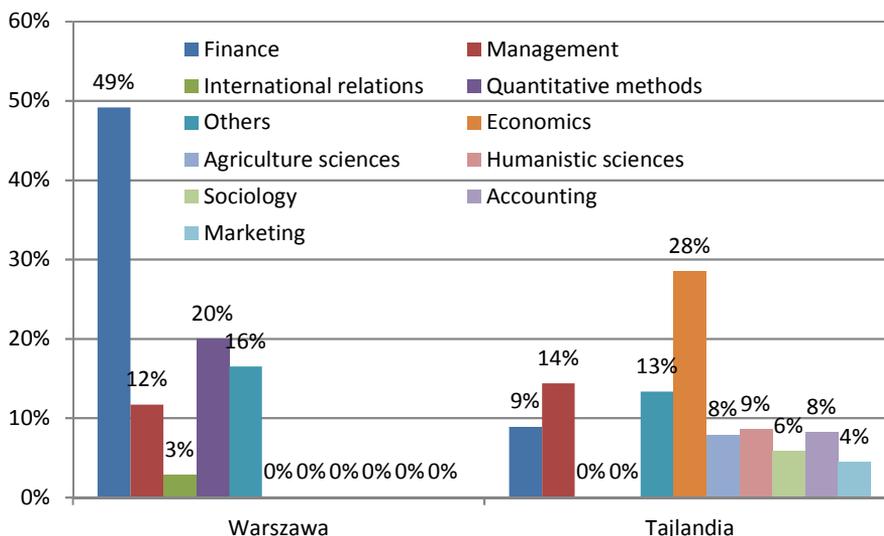


Figure 1. Students' specialization in both groups

Source: personal questionnaire, n=606.

It is recognized that, whilst there is a body of literature on entrepreneurial intentions and attitudes, there is a lack of research in different countries and the current paper adds to this body of literature and makes a significant contribution to the research on factors influencing entrepreneurial attitudes among students. Moreover, the investigated role of the Universities in shaping entrepreneurship education offers a new perspective.

RESEARCH FINDINGS

Students' attitudes to set up a business

While there has been significant research on the causes of entrepreneurial intent but only a few have focused on students. Those that exist tend to focus on US and UK cases – despite the heterogeneity of sampling methods and target population, the existing studies report that, on average, one quarter of students surveyed claimed that after their graduation they would like to become entrepreneurs. Franke and Lu'thje (2004), analyzing business undergraduates from Austria, Germany, and the US, found that entrepreneurial intents of USA was the double of Germany's (50 percent against 25 percent) and substantially above that of the Austrian's (36 percent). While new venture opportunities exist within nearly all academic disciplines, the majority of entrepreneurship initiatives at universities are found to be offered by business schools (Ede et al., 1998).

In order to select the entrepreneurially inclined students, the question "what are you planning to do after graduation?" was asked. The results are presented in Figure 2 for both countries.

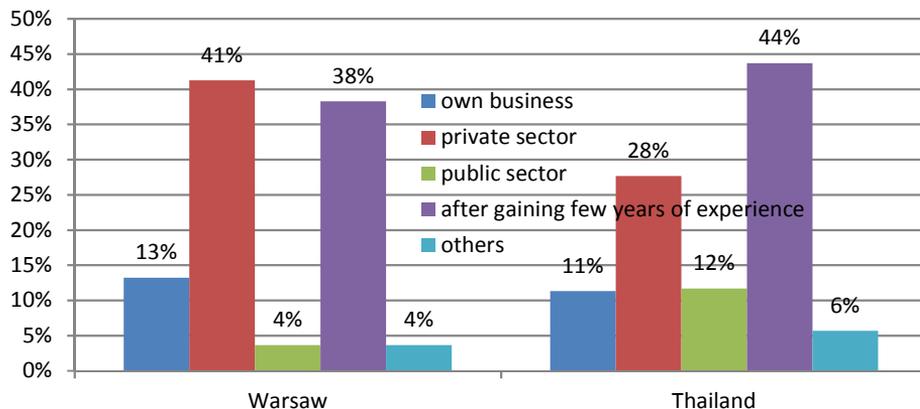


Figure 2. Student employment plans after graduation

Source: own development, n=606

At Warsaw School of Economics 13% of students would like to set up their companies immediately after graduation. On the other hand in Thailand, less students are willing to set up their business that is 11%. The entrepreneurial intentions of students are then different after gaining few years of experience. In Warsaw 38% of students think of setting up their own business whilst in Thailand 44%. For Polish students private sector seems to be a good option, 41% of students would like to work there whilst only 28% Thai students. The differences are significant when it comes to the possibility of working in a public sector. For Polish students it is not a good option as only 4% of students would like to work there whilst for Thai students it seems to be a good perspective as 12% of them would like to work there. For developing economies, working for the public sector is a symbol of stability and security. Perhaps the business and companies clustered round Warsaw School of Economics encourage students to be more entrepreneurial.

In this case the H0 hypothesis is confirmed, namely that entrepreneurial attitudes between both groups are similar. This is consistent with the results of Global Entrepreneurship Monitor which investigates the entrepreneurial intentions of inhabitants' in countries all over the world. The indicator for Thailand is 22,6% whilst in Poland it is 20,8%. Also in Thailand the entrepreneur enjoys high status as expressed by 73,6% respondents. In Poland on the other hand according to the "Rzeczpospolita" daily rankings, the entrepreneur is in a distant position. Although a relatively high-value entrepreneur enjoys a high reputation (but it is relatively rare to find a wealthy entrepreneur), small entrepreneurs, who account for 90% of all companies in Poland, enjoy the same status as a person without a profession.

Students' education in entrepreneurship

Education is one of the factors that stimulate entrepreneurship, especially in terms of fostering entrepreneurial awareness [Wach 2016].

Programs that support entrepreneurship through financial grants, training and internships do not appear to deliver the expected results and end their lives at the end of

the required period. One of the main reasons is the ineffective education process in this context as noted by Safin [2014].

Students were asked whether one can *learn* to be an entrepreneur. The differences between two countries are significant and are presented in Figure 3.

More than half of students from both countries claim that entrepreneurship is partly learned.

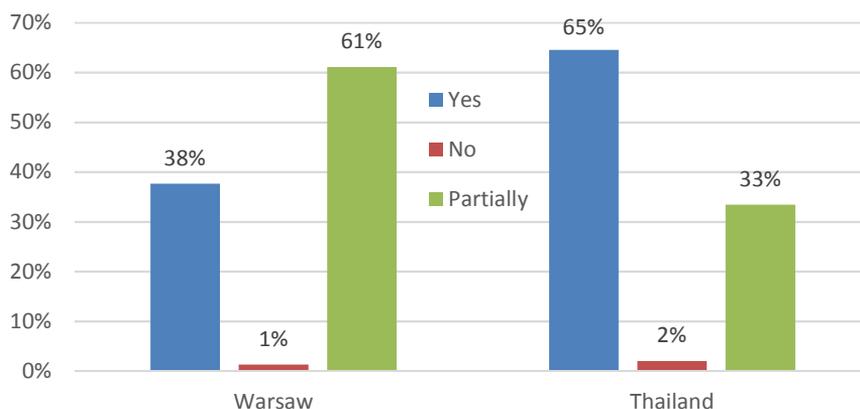


Figure 3. Learning to be an entrepreneur

Source: own development, n=606

Kolvareid and Moen (1997, p. 155) argue that entrepreneurship education can develop skills for business start-ups and ownership, and that it “represent a positive influence in terms of general attitudes to entrepreneurship”. It is therefore important to understand how entrepreneurship education influences students’ attitudes towards new venture creation and how it can provide a feasible alternative career prospect.

As students from both Universities indicate that you can learn to be an entrepreneur we wanted to find out if education enhances students entrepreneurial intentions. We asked if students think that the education they are gaining at their home university by participating in different modules enhances their entrepreneurship skills? Students could select from 1 – I strongly disagree to 5 – I strongly agree using the Likert scale. The results are presented in Figure 4.

13% of students from SGH strongly agree that education enhances their entrepreneurial intentions whilst 34% of Thai students believe share this opinion. 62% of SGH students partially believe in education and 58% from KU. None of the Thai students expressed their belief in lack of education.

This is strong evidence that there is an important place for academic teachers to include entrepreneurial studies in education and is in line with the view of Wach, Jiménez-Moreno and Wach who state that education, and in particular teaching entrepreneurship, shapes the entrepreneurial attitude and entrepreneurship intentions [Wach 2013, 2015; Jiménez-Moreno & Wach 2014].

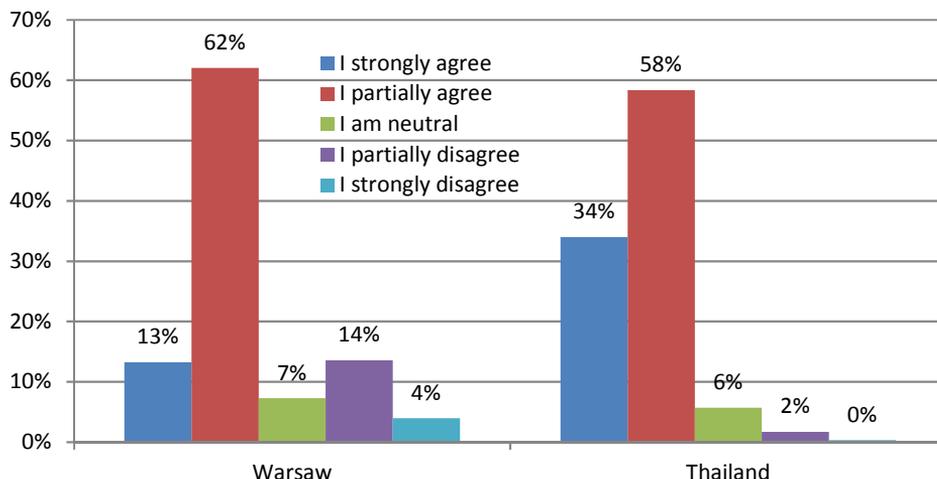


Figure 4. Education in entrepreneurship

Source: own development, n=606

Students' activities forming entrepreneurial attitudes

In creating an entrepreneurial attitude it is important to know one's predispositions and talents and to create opportunities to develop them during didactic or individual work. Such attitudes can be developed at school, in the local community or in the home environment. It is of particular importance to create situations in which a young person can become acquainted with themselves, in order to find his future place in changing social and professional structures [Zioło 2012].

The question: "how do I enhance my entrepreneurial attitude" is meant to analyse what steps students undertake to develop their entrepreneurial attitude. The question was not obligatory and meant to be answered only by entrepreneurially inclined students, but all students answered this, which confirms that students from both Universities regard entrepreneurship in a wider aspect and even though some want to work for someone else they still want to develop their entrepreneurial attitude. Students were able to tick as many answers as were relevant to them.

None of the student in Thailand pointed out to the answer I surf the Internet, which is quite surprising and unexpected as for 63% students at SGH they do so. Young generation uses the Internet, especially social media like Youtube, to learn about success stories of start-ups but this is not the case in terms of Thai students. The students' answers are presented in Figure 5.

Thai students in greater extent develop their entrepreneurial skills. In all available possibilities they score higher than SGH students which proves consistency in their answers. They believe that proper education helps you to develop their entrepreneurial skills.

The Thai students are more focused on traditional way of learning, reading books is the most popular answer as expressed by 58% of them. They are also more inclined to help their family members (30%) and help a friend (27%). This may be explained that Thailand is a highly collectivist society - 20% on individualism on Hofstede dimen-

sion. This is manifested in a close long-term commitment to the member 'group' (a family, extended family, or extended relationships). Loyalty to the in-group in a collectivist culture is paramount, and over-rides most other societal rules and regulations. The society fosters strong relationships where everyone takes responsibility for fellow members of their group (<https://www.hofstede-insights.com/country-comparison/thailand/>, date of access 10.07.2018).

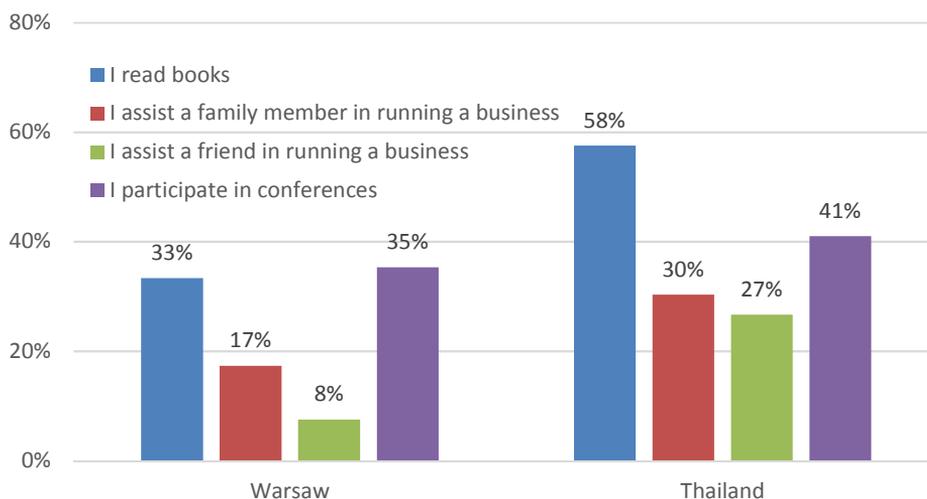


Figure 5. Ways of developing entrepreneurial attitude

Source: own development, n=606

On the other hand, Polish students in less extent read books – 33% and help family member or a friend in running a business adequately 17% and 8% appropriately. The differences in answers are significant in Polish group in terms of helping a family member or a friend. Polish students make a strong distinction between a friend and a family. They are more eager to offer help to a family member than a friend, the difference is 9% in Polish group and 3% in Thai group. Polish society is highly individualistic and scores 60% on individualism on Hofstede dimension.

DISCUSSION

The study tested whether differences in students' attitudes towards entrepreneurship exist between two countries: Poland with the University located in the capital - Warsaw and Thailand with a University located in Bangkok. As the analyzed variables are of qualitative character, a chi-square statistic was utilized to establish the statistical significance of the differences. The test was conducted assuming $\alpha = 0.05$. The results are presented in Table 1.

If the calculated probability of the test statistic p is less than the significance level α , then it indicates significant differences in the answers of the students of the Warsaw and Bangkok groups. The test proved significant differences in both groups in all categories with the exception of category: participating in conferences.

Table 1. Results of Chi square test

	<i>p</i>
Plans after graduation	0.000009***
You can learn to be an entrepreneur	0.000000***
Education and entrepreneurial skills	0.000000***
Ways to enhance entrepreneurial attitudes	
Reading books	0.000000***
I help in running a business - family	0.00017***
I help in running a business - friend	0.000000***
I participated in conferences	0,14519

Note: ***, indicate significant differences at the 0.01 levels respectively.

Source: own development, n=606.

Overall, the study confirms that entrepreneurial education can positively reinforce student attitudes towards an entrepreneurial career choice within a developing country such as Poland and Thailand. Thai students in greater extent believe in entrepreneurship education which may help them to become more willing to set up their own business. It is apparent that students' entrepreneurial attitudes developed accordingly, and they demonstrated heightened interest in the opportunity of a future or immediate entrepreneurial career.

CONCLUSIONS

Entrepreneurs are recognized as important drivers of economic and social progress, and entrepreneurial initiatives for young people are regarded as an important factor in the future growth of a nation. Consequently, universities are expected to play a major role in propagating an entrepreneurial attitude among students and graduates and nurturing future entrepreneurs. This explains why a growing number of universities start to offer specialized entrepreneurship courses and programs in their business curriculum.

The aim of this study is to investigate students' attitudes to setting up their own business, focusing on the cases of the Warsaw School of Economics and Kasetsart University in Bangkok. The second aim is to assess the role of the university in developing enterprise education in Poland and Thailand.

To sum up, it can be stated that entrepreneurial attitudes amongst Polish and Thai students is not high, although there is a switch towards setting up a business after gaining a few years of work experience. However, the study observes that university, could be the right place to impart enterprise education. Such attitude was greatly exerted by Thai students, who believe that University education can help them to boost their entrepreneurial skills as you can learn to be an entrepreneur.

The contribution of this study is to add to the understanding of entrepreneurial attitudes amongst two distinct groups of students: Thai and Polish.

The practical implications of this research are three-fold:

- The percentage of students wanting to set up their own business just after graduation in two countries is very similar, pointing towards a uniformity of entrepreneurial cul-

ture in Poland and Thailand that may be a potential factor significantly contributing to setting up a business;

- The education system plays a significant role in shaping entrepreneurial attitudes;
- Informal education plays a significant role in enhancing such attitudes.

Confinement to two Universities in Poland and Thailand in this study restricts the generalization to other Universities. Further research, looking specifically at the influence of the culture, place of study on entrepreneurship, including larger samples, other universities in other countries, are recommended to validate and generalize the findings for Warsaw School of Economics and the Kasetsart University.

This study provides compelling evidence that students want to start their entrepreneurial activity after gaining a few years of work experience. It would be inappropriate to generalize these results to actual entrepreneurial behaviours until such a relationship is confirmed by other empirical research.

Our results are based solely on the self-evaluation of students, regarding their capability and awareness about starting a new business venture. This could have a strong impact on their perceptions and intentions. Further research could investigate whether the students have over-estimated or under-estimated their proficiency, and the extent to which the self-evaluations reflect their actual skills and the consequent impact on entrepreneurial ability.

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Innovativeness of Polish enterprises in the development of competitive advantage

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Abstract

In today's fast-paced competitive environment, firms face the need to be increasingly nimble and adaptive. Sustainable competitive advantage no longer arises from positioning or resources. They need to embrace the notion of transient advantage, learning to launch new strategic initiatives again and again, and creating a portfolio of advantages that can be built quickly and abandoned just as rapidly. This has led firms to move to a new paradigm of competitiveness, namely solutions innovation. A constant source of innovation, used to build transient advantage, becomes a new source of competitive advantage. Innovation thus becomes the most important tool for competition. The aim of this article was to analyse the effect of innovation on the competitiveness of firms and to assess the level of innovativeness of Polish entities. The research question was whether Polish firms are competitive enough to successfully compete in today's environment. Based on the data analysis it can be said that Polish firms are not sufficiently innovative, which has a negative effect on their competitiveness. Enterprises spent too little on innovation, and the structure of their expenditure is inappropriate.

Keywords: Innovation; competition; competitive advantage; transient advantage; innovativeness

JEL codes: F26

INTRODUCTION

Contemporary competitive environment undergoes frequent changes and is unpredictable. Intensive global information flow stimulates the development of science and technology, which results in high variability in the tools entrepreneurs use to compete. Due to its character, the Internet reduces to a large extent spatial barriers, bringing markets and competitors closer together, and thus creating one huge global market where everyone can compete with one other regardless of time and place. In consequence, cognitive perspectives of both manufacturers and customers shift, which leads to changes in the marketing strategies employed by companies. It is necessary to modify marketing strategies and tools in order to get adjusted to the hyperreality and online products and services [Sułkowski, 2014, p. 278].

At the same time, the permanence of competitive advantage is losing its significance. All solutions adopted to build competitive advantage are copied, which is made easier by the development of information technologies. Competitive advantage gets eroded. Thus, organisations resign from building permanent competitive advantage as, in fact, it cannot last, and so it cannot provide the basis for maintaining a stable position on the market. The main strategic goal is now growth that creates the company's value [Zenger, 2013, p. 73].

In this new situation, competitiveness of organisations is still one of their most important characteristics because it cannot be belittled by a lack of permanence of competitive advantage. Only conditions for competition change. The significance of innovations, which have become the main sources of competitiveness of organisations, is growing, which is why one of the most important tasks faced by enterprises with regard to effective innovation management is balancing their innovation portfolio and adjusting it to the organisation's competitiveness level, also in terms of technological and market capabilities [Pomykalski, 2001, p. 24]. Innovations become the basic factors behind the organisation's success, while the ability to create and effectively use them in the context of value creation becomes a prerequisite for successful performance [Baruk, 2013, p. 13]. In order to rise to this challenge, the enterprise's strategy should be linked with innovativeness and proper financing. Thus, competitive advantage and value are created [Pomykalski, 2008, p. 310], translating into the organisation's competitiveness.

The aim of this article is to analyse the effect of innovation on the competitiveness of organisations and to assess the level of innovativeness of Polish enterprises. The authors' research question is whether Polish enterprises are competitive enough to successfully compete in the contemporary environment. Sources of information include literature review and secondary research.

The article is contributory in nature. The conclusions drawn by its authors can be used by practitioners (to assess and analyse the effect of Polish enterprises' innovativeness) and by theoreticians (to design their own research).

INNOVATIVENESS AND COMPETITIVE ADVANTAGE

Innovativeness is the organisation's ability to constantly seek, implement and disseminate innovations [Pomykalski, 2001, p. 18]. Innovativeness can also be understood as the enterprise's ability and readiness to develop and assimilate new or improved products, services rendered or technologies applied [Janasz, Koziół, 2007, p. 57]. Innovativeness is the basic

challenge for enterprise management, which results from the fact that only organisations that introduce new products, processes and changes in an innovative way will have a chance to develop. Innovative organisations are more frequently successful, they have a better understanding of their relationships with the environment, and they are the first to discover configurations that best fit the environment [Dobni, 2006, p. 329].

According to the authors of *Oslo Manual*, an innovative enterprise is an enterprise that during the analysed period (usually three years) introduced at least one technological innovation that was a novelty, at least from the point of view of this enterprise [Podręcznik Oslo, 2005, p. 61]. Innovation does not need to be successful. Thus, in order for a company to be innovative by definition, no significant activities related to innovation are required.

The organisation's innovativeness level depends on such factors as [Szulakowski, 2004, p. 16]: the ability to manage innovations, a climate for innovations, and innovative culture. The enterprise size is of no significance to innovation [Shefer, Frenkel, 2005, pp. 25-32]. What matters are the processes related to knowledge management. Practically all factors related to it have a positive effect on the organisation's innovativeness level, with new knowledge acquired by employees being of the greatest significance [Leszczyńska, 2007, pp. 11-13].

From the practical point of view, the significance of innovation is profound. In order to be competitive on the market, an enterprise has to be innovative not only by definition. Due to the character of operations in the contemporary environment, innovation does not offer permanent competitive advantage because all effective and efficient solutions are soon copied by other organisations. Thus, as it was already mentioned in the introduction, organisations depart from striving after lasting competitive advantage towards increasing their value through activities that ensure positive effects over a short period of time. This allows them to gain short-term advantage over their competitors called transient advantage [Gunter McGrath 2013, p. 70].

An organisation adopting the above approach has a portfolio of competitive advantages instead of one permanent advantage. What is characteristic of these advantages is that they are quickly introduced and substituted with new ones as soon as they lose their value. Thanks to this, enterprises can combine flexibility of action with getting ahead of their competitors. When following the above paradigm, it is important for the organisation to know how to create and select appropriate advantages, and how to quickly implement them [Gunter McGrath 2013, p. 70]. A prerequisite for effective implementation of transient advantage is a permanent source of innovation translating into improved offers and operations of the company. Thus, the organisation making use of transient advantage can quickly supplant eroding competitive advantages by new ones, and build a portfolio of competitive advantages that will effectively protect it against its competitors [Gunter McGrath 2013, pp. 64-70]. This requires the following abilities [Reeves, Deimler 2011, p. 137]:

- The ability to quickly recognize changes and to respond to the identified signals;
- The ability to frequently experiment not only with new products but also new business models, strategies and processes;
- The ability to manage complex and interrelated systems of different stakeholders;
- The ability to motivate employees and partners.

This indicates that an enterprise that uses a new paradigm of formulating its competitive strategy does not only have to be innovative by definition, but mostly flexible and, through a number of properly selected effective and efficient innovations, agile in adjusting itself to the market environment. The ability to adjust oneself to the market, to experiment with new products, and to shape the market thanks to smaller and larger changes becomes key from the point of view of the organisation's competitiveness. What is also required, however, is certain stability in terms of organisational culture, leadership, relationships, and even strategy [Gunter McGrath, 2017, p. 57].

It is thus important to measure the organisation's innovative activity not only from the perspective of the definition of an innovative organisation, but also in terms of the number, intensity, and significance of its innovation policies. This is why it seems that a more adequate definition of an innovative enterprise is the one proposed by Jasiński, according to which an innovative enterprise is an organisation oriented towards innovation, i.e. an organisation that [Jasiński, 2006, s. 41]:

- Conducts extensive research and development work;
- Makes relatively large outlays on this activity;
- Regularly implements new scientific and technical solutions;
- Has a large share of innovations in their production and service volume;
- Regularly introduces innovations into the market.

According to these criteria, only some organisations – those where research and development activity is of significance to operation – can be called innovative.

However, even this narrowed-down definition is not fully adequate as there are many possibilities for using numerous innovations without an extensive research and development department. The nature of contemporary competition requires the introduction of many innovations that translate into short-term, transient advantage. Many of them are marketing or organisational innovations for which no R&D department is needed. Relying only on the development of new technologies may be both costly and risky, particularly considering the fact that in many cases building competitive advantage based on innovation and development does not involve direct investments in research and development activity. Instead, technologies from external sources are acquired, which is frequently cheaper than conducting research. Organisations orient themselves towards external development, thus improving their internal profitability [Pomykalski, 2011, p. 124].

In consequence, considering practical aspects including the significance of innovativeness for competition, an organisation can be called innovative when it regularly and consistently uses innovation (in terms of products, organisation, processes, and marketing activities) in its operations, which translates into an improvement of its competitive position. This means that any assessment of an organisation's innovativeness should be multi-faceted.

INNOVATIVENESS OF POLISH ENTERPRISES

The methodology that constitutes the current international standard in terms of statistical studies on innovation in industry and the market service sector is *Olso Manual*. It mostly recommends the subject approach, with innovative activity and

behaviour of an enterprise as a whole serving as the research subject. Potential research areas include [Podręcznik Oslo, 2005, p. 32]:

- Innovative activity scope;
- Expenditure on innovative activity;
- Effects of innovative activity;
- Sources of information for innovation;
- Cooperation on innovation activity;
- Barriers to innovation;
- Sale of innovative products;
- Inventions;
- The use of instruments provided by the national pro-innovation policy.

Such a wide array of measures of innovation seems right as it does not only concentrate on innovative activity connected with the development and implementation of new technologies, but also on the broader aspect of innovations implemented by organisations. For the purpose of this article, due to its limited length, the authors have selected a few of the research areas listed above. Sources of information included cyclical reports published by the Central Statistical Office (*Działalność innowacyjna przedsiębiorstw w Polsce; Nauka i technika*) and Eurostat's website. This information makes it possible to generally assess the innovativeness level of Polish enterprises compared with their European partners, and so the effect of innovation on their competitive position.

The discussion on the innovativeness of enterprises should start with an analysis of the state's internal expenditure on scientific research and development work. In 2016, Poland spent less than 1% of its GDP on such activity (Table 1). This is not much, particularly considering the fact that the average expenditure in other EU member states was 2%, which is twice as much. Also the target expenditure on research and development (1.7%) seems unsatisfactory. With the EU average of 3%, this is definitely not enough, because even attaining it would not considerably improve Poland's position in the European Union.

Poland's situation seems a bit better when compared with individual countries. In 2016, out of all countries, Romania spent the least on research and development, Italy occupied the 13th place out of 28 countries, so it was somewhere in the middle, while the EU leader was Sweden. Thus, compared with Romania, we spend twice as much (as a percentage of GDP), by 0.3% less than the average Italy, and the leading Sweden spends more than three times as much as we do.

A positive aspect is the relatively stable growth of expenditure, with the highest value of 1% achieved in 2015. It is worth noting that in Romania and Sweden the highest share was achieved 10 years ago, in 2008. However, considering Poland's situation, the dynamics of this growth seems unsatisfactory. Between 2000 and 2016, the share of budget expenditure on research and development in Poland grew by 0.3 percentage point, which more or less equals the average growth in all EU member states. With this growth rate, Poland does not stand a chance of improving its position over the upcoming years, which will result in a worse competitive position of Polish enterprises compared with their European competitors.

Low expenditure on the state's research and development activity translates into low innovativeness of enterprises (Table 2). In the case of enterprises with a high technological level only one in three was innovative, and every fourth incurred some expendi-

ture on R&D. These numbers are unsatisfactory considering the fact that these companies operate on markets of highly innovative products, where the market position is achieved thanks to the effective introduction of innovations. A company that has been effectively building its competitive advantage for years is Intel. It follows a strategy based on Moore's law, according to which the microprocessor technology will develop exponentially [Intel, <http://www.intc.com>]. In order to rise to this challenge, the company decided that one of its most important tasks was to constantly invest in the development of their product technology. It spends 10% of its revenue from the sale of its products and 10% of its net income on research and development. These values are twice as high as the average values on the market [McElheny <http://www.xconomy.com>]. Considering the company's high share in the global market of microprocessors (65.3%) [<http://pclab.pl/>], the amount of resources spent by Intel on the microprocessor technology is several times higher than in the case of their competitors (in 2015, Intel spent about 12 billion dollars on research and development, while Qualcomm, which occupies the second position in terms of expenditure in the microprocessor industry, spent only 3.7 billion [Design&Reuse, <http://www.design-reuse.com/>]).

Table 1. Share of internal expenditure on research and development as a percentage of GDP

Poland												
Year	2016	2015	2014	2013	2012	2011	2010	2008	2005	2000	1995	Aim
Share of R&D expenditure in GDP (in %)	0.96	1.00	0.94	0.87	0.88	0.75	0.74	0.6	0.57	0.64	0.63	1.7
Share per one citizen in PLN	467	470	420	375	372	303	207	202	146	125	55	
EU												
Share of R&D expenditure in GDP (in %)	2.03	2.04	2.03	2.02	2.01	1.97	1.77	1.84	1.74	1.77		3,00
Romania												
Share of R&D expenditure in GDP (in %)	0.48	0.49	0.38	0.39	0.48	0.5	0.46	0.55	0.41	0.36	0.75	2,00
Sweden												
Share of R&D expenditure in GDP (in %)	3.25	3.27	3.15	3.31	3.28	3.25	3.22	3.5	3.39	3.42	3.13	4,00
Italy												
Share of R&D expenditure in GDP (in %)	1.29	1.34	1.34	1.31	1.27	1.21	1.22	1.16	1.05	1.01	0.94	1.53

Source: drawn up based on statistical data: Nauka i Technika w 2007-15 (2008-16); <http://ec.europa.eu/eurostat/>.

Also the intensity of research and development is low. Significantly, over the last few years the situation has not changed much, as a result of which the innovativeness level of Polish enterprises remains relatively low. In order to improve their competitiveness, it is necessary to considerably increase both the intensity of and expenditure on research and development work conducted by Polish enterprises operating in high-tech sectors. Only such an approach will allow them to be competitive. A significant role should be played here by the Polish state, in both institutional and financial terms, so that the deficiencies faced by Polish companies compared with their foreign competitors are overcome. An example of such an approach can be the activity of the Chinese government

aimed at fostering cooperation between enterprises, academic centres and governments in order to develop a competitive automotive industry, one of the global leaders in the production of electric cars [Dijk, Orsato, Kemp, 2013, p. 141].

Table 2. Innovativeness and knowledge intensity in industrial enterprises according to their technological level

Enterprise's technological level	Enterprises								Direct and indirect R&D intensity			
	Innovative				Those that incurred expenditure on internal R&D							
	2015	2013	2011	2009	2015	2013	2011	2009	2015	2013	2011	2009
High (in %)	37.7	38.7	35.1	43.0	24.4	21.7	15.6	21.3	1.57	1.72	1.65	1.08
Rather high (in %)	33.1	32.2	33.1	34.2	15.5	11.7	9.2	11.2	0.55	0.51	0.3	0.73
Rather low (in %)	17.9	17.1	17.8	20.5	5.8	3.2	2.4	3.2	0.15	0.13	0.11	0.07
Low (in %)	12.1	12.4	10.3	12.4	2.0	1.2	0.7	1.1	0.11	0.1	0.1	0.13

Source: drawn up based on statistical data: Nauka i Technika w 2015 (2016); Nauka i Technika w 2013 (2014); Nauka i Technika w 2011 (2012); Nauka i Technika w 2009 (2010).

Not only the amount of expenditure in the economy, but also its structure within the enterprises is unsatisfactory. This mostly concerns industrial enterprises (Table 3).

Direct expenditure on research and development or purchasing technology in the form of documentation and the right to use it is definitely too low. Most resources are spent on tangible assets, which means they are invested in buildings and structures, land, machines, technical devices and equipment, and means of transport. What is worse is the fact that the situation has not changed for many years and there is nothing to indicate that it will. Key success factors of Polish enterprises should be mostly related to their intellectual, cultural, financial and technological capital. However, in the case of technological capital, the significance of the non-material component is growing, which includes unique knowledge gained from investments in research and development, organisational capital and brand [Skawińska, Zalewski, 2016, p. 22]. It is also worth noting the diminishing significance of financial capital, which results from low interest rates and the requirement to have more able and more competent employees. In consequence, human capital becomes the most important resource in an organisation [Mankins, Harris, Harding, 2017, p. 75]. Thus, out of the four capital types listed, intellectual capital should be placed first, and the expenditure structure should change.

The structure of expenditure on innovative activity is better in the case of service enterprises, where expenditure has been clearly moved over the last decade from tangible assets to research and development (Table 4). In 2016, the share of R&D in the whole expenditure on the generally understood innovative activity was 45%. This change is a positive signal for the future as it should lead to the development of knowledge and intellectual capital in these companies, which, considering today's business reality, is more important with regard to competitive advantage than investments in tangible assets.

Another positive phenomenon identified is the growing value of expenditure on research and development in private enterprises. Between 2008 and 2016, it grew fivefold (Table 5). At the same time, this growth was lower in other sectors. In consequence, the private sector achieved the share of expenditure on research and development of 65%, which is similar to the average EU level of 64%. However, this result is disturbed by a

rapid decline in expenditure on R&D in the government sector. In 2016, such expenditure constituted only 10% of the expenditure from 2015.

Table 3. Expenditure on innovative activity in industrial enterprises

Industrial enterprises											
Expenditure in million PLN											
Year	2016	2015	2014	2013	2012	2011	2010	2008	2006	2005	2000
R&D work	5191	4838	4416	3830	3530	2617	3273	1930	1481	1367	1570
Purchasing knowledge from external sources	164	243	220	210	651	258	911	262	337	343	297
Purchasing software	449,5	336	387	332	376	429	452	354	467	281	no data
Investment outlays on tangible assets	26725	22300	16689	14322	14934	15003	16737	20066	13058	11866	9344
Staff training in investment activity	251	62	39	127	40	65	88	202	40	43	135
Marketing concerning new and substantially improved products	405	411	528	370	469	439	440	580	463	289	393
In total	33186	28920	22544	19521	20293	19377	22379	23686	16031	14329	12235
Expenditure structure in %											
R&D work	15,64	16,73	19,59	19,62	17,40	13,51	14,63	8,15	9,24	9,54	12,83
Purchasing knowledge from external sources	0,49	0,84	0,98	1,08	3,21	1,33	4,07	1,11	2,10	2,39	2,43
Purchasing software	1,35	1,16	1,72	1,70	1,85	2,21	2,02	1,49	2,91	1,96	no data
Investment outlays on tangible assets	80,53	77,11	74,03	73,37	73,59	77,43	74,79	84,72	81,45	82,81	76,37
Staff training in investment activity	0,76	0,21	0,17	0,65	0,20	0,34	0,39	0,85	0,25	0,30	1,10
Marketing concerning new and substantially improved products	1,2%	1,42	2,34	1,90	2,31	2,27	1,97	2,45	2,89	2,02	3,21

Source: drawn up based on statistical data: Nauka i Technika w 2015 (2016); Nauka i Technika w 2009 (2010); Nauka i Technika w 2000 (2006); Działalność innowacyjna przedsiębiorstw w latach 2014–2016 (2017).

The higher education sector has a relatively high (ca 30%) share of expenditure on research and development. In the EU, this share was definitely lower (23%). However, the higher education sector in EU member states has a high level of enterprise. Networks of small and medium enterprises are created around prestigious universities and institutes. There are also a number of activities stimulating enterprise on both central and regional levels. Polish higher education institutions are only at the initial stage of developing a model of academic enterprise, which creates numerous organisational barriers that hinder the development and implementation of innovative solutions [Poznańska, 2014, pp. 167-170]. Thus, despite a lower share of expenditure, the EU higher education achieves better results in the form of specific innovations used by enterprises.

It seems that it would be good to maintain the clearly higher growth of expenditure on the above aim in the private sector and, at the same time, to restore the expenditure level of the government sector from 2015. This would make it possible for individual sectors to achieve shares similar to those of other EU member states. It would also be worth creating

mechanisms for translating to a greater extent the expenditure incurred by the higher education sector into specific solutions and innovations applied by enterprises, including enterprises set up by academics from those higher education institutions.

Table 4. Expenditure on innovative activity in service enterprises

Service enterprises										
	Expenditure in million PLN									
Year	2016	2015	2014	2013	2012	2011	2010	2009	2008	2006
R&D work	4385	3803	2611	2392	5796	1355	1271	802	557	802
Purchasing knowledge from external sources	500	281	194	no data	no data	no data	788	586	174	293
Purchasing software	981	1239	1165	1641	1347	1484	1482	1163	1103	734
Investment outlays on tangible assets	3147	4660	4814	4501	4557	5659	5530	4429	7329	4452
Staff training in investment activity	56	140	50	68	no data	no data	71,5	54	56	64
Marketing concerning new and substantially improved products	659	966	1661	455	940	462	454	482	266	293
In total	9728	11856	10791	9702	14178	10318	9921	7624	9797	7215
	Expenditure structure (in %)									
R&D work	45,08	32,08	24,20	24,65	40,88	13,13	12,81	10,52	5,69	11,12
Purchasing knowledge from external sources	5,14	2,37	1,80	no data	no data	no data	7,94	7,69	1,78	4,06
Purchasing software	10,08	10,45	10,80	16,91	9,50	14,38	14,94	15,25	11,26	10,17
Investment outlays on tangible assets	32,35	39,30	44,61	46,39	32,14	54,85	55,74	58,09	74,81	61,70
Staff training in investment activity	0,58	1,18	0,46	0,70	no data	no data	0,72	0,71	0,57	0,89
Marketing concerning new and substantially improved products	6,77	8,15	15,39	4,69	6,63	4,48	4,58	6,32	2,72	4,06

Source: drawn up based on statistical data: Nauka i Technika w 2015 (2016); Nauka i Technika w 2009 (2010); Nauka i Technika w 2000 (2006); Działalność innowacyjna przedsiębiorstw w latach 2014–2016 (2017).

Table 5. Internal expenditure on scientific research and development work in operations sectors in 2008-20016

	Expenditure value (billion PLN)									
	2016	2015	2014	2013	2012	2011	2010	2009	2008	
Private enterprises	11,78	8,41	7,53	6,29	5,34	3,52	2,77	2,58	2,38	
Government sector	0,45	4,41	3,87	3,87	4,01	4,04	3,74	3,11	2,72	
Higher education	5,63	5,22	4,71	4,22	4,94	4,1	3,87	3,36	2,59	
Private non-commercial enterprises	0,08	0,03	0,05	0,04	0,06	0,03	0,03	0,01	no data	EU 28
In total	17,94	18,07	16,16	14,42	14,35	11,69	10,41	9,06	7,7	2015
	Percentage share (in %)									
Private enterprises	65,66	46,5	46,6	43,6	37,2	30,1	26,6	28,5	30,9	64
Government sector	2,51	24,4	23,9	26,8	27,9	34,6	35,9	34,3	35,3	12
Higher education	31,38	28,9	29,1	29,3	34,4	35,1	37,2	37,1	33,6	23,20
Private non-commercial enterprises	0,45	0,2	0,3	0,3	0,4	0,3	0,3	0,1		0,80

Source: drawn up based on statistical data: Nauka i Technika w 2008-15 (2009-16); Działalność innowacyjna przedsiębiorstw w latach 2014–2016 (2017); <http://ec.europa.eu/eurostat/>

The unsatisfactory value of expenditure on research and development and the incorrect structure of this expenditure focusing on tangible assets result in a small number of patent applications submitted to the European Patent Office. In 2014, Poland submitted only 16 patents for every million inhabitants. This is a very small number, considering huge disproportion between the number of such patents submitted by Poland and the highly developed EU countries (e.g. Germany – 256, Finland – 340, Sweden – 349). This number is also higher in countries closer to Poland, e.g. in the Czech Republic there are 25 patent applications submitted for each million inhabitants, and 23 in Hungary [*Nauka i Technika w 2015*, p. 148].

A positive phenomenon is the constantly growing number of inventions submitted by and patents granted to Polish enterprises (Table 6). In 2000-2005, most inventions were submitted by foreign entities, but from 2010 one can see considerable growth and domination of Polish entities. This probably results from the steady growth of expenditure on research and development incurred by private companies.

When discussing innovative activity, one should also assess the types of innovations introduced by national enterprises. As shown in Table 7, deficiencies of Polish enterprises include not only a small percentage of enterprises introducing innovations but also a distorted structure of these innovations. In Poland, most of the innovations introduced concern products and processes, while in the EU the share of different innovation types is similar. One should remember that contemporary competition conditions make enterprises introduce transient advantage, which means that they need a constant source of innovations in terms of products, processes, organisation and marketing. It is easier to suggest a new method for distribution, assessment or promotion, than to develop and introduce a new product. An innovative marketing solution can also be a source of competitive advantage.

Table 6. Industrial property protection in Poland in 2001-2007 (national and foreign enterprises)

National entities								
Year	2015	2014	2013	2012	2011	2010	2005	2001
Patent applications	4676	3941	4237	4410	3878	3203	2028	2202
Patents granted	2404	2490	2339	1848	1989	1385	1054	851
Utility models submitted	994	913	986	941	940	879	600	1057
Protection rights granted	562	586	621	514	498	484	829	484
Decorative patterns and industrial designs submitted	1022	1138	1317	1341	1548	1723	1773	1223
Rights in registered industrial designs granted	776	827	1268	1532	1294	1231	1973	561
Trademarks submitted	12613	13139	13532	13246	14252	14080	13864	12434
Protection rights granted	7992	9386	9049	7925	8795	10050	8688	5074
Foreign entities								
Year	2015	2014	2013	2012	2011	2010	2005	2001
Patent applications	139	155	174	247	245	227	4565	4344
Patents granted	168	362	465	636	1123	1619	1468	1171
Utility models submitted	63	48	67	56	63	66	44	38
Protection rights granted	44	34	33	38	26	35	21	22
Decorative patterns and industrial designs submitted	51	45	16	9	12	9	122	464
Rights in registered industrial designs granted	4	27	16	12	8	17	309	68
Trademarks submitted	3563	3244	4003	3528	4044	4016	7448	12601
Protection rights granted	2717	3170	3309	3289	4458	4553	10551	10832

Source: drawn up based on statistical data: *Nauka i Technika w 2008-15 (2009-16)*; *Działalność innowacyjna przedsiębiorstw w latach 2014–2016 (2017)*.

At the same time, significance of marketing is growing. This results from a departure from activities focusing on the transaction towards maximization of the customer value [Rust, Moorman, Bhalla, 2010, p. 96]. Today, in order to operate successfully, enterprises need to have strong brands and a group of loyal customers so that the introduction of innovations entails a lower risk of failure. Such organisations also know how to properly approach marketing in an organisation. Effective marketing strategies involve an operation model based on the following three elements [Swaan, Driest, Weed, 2014, p. 60]:

- Focus on information and analysis (Think);
- Focus on customer involvement (Feel);
- Focus on the content and the product (Do).

Marketing also needs to have a significant effect on decisions taken in other departments, with some of them even taken by the marketing department employees [Joshi, Gimenez, 2014, pp. 66-70]. Only then is it possible to create value thanks to which the organisation can gain a secure position on the market.

The most spectacular example of a company effectively using marketing in order to build its competitive advantage is Apple. Its ground-breaking product, iPhone, was proved successful and redefined the industry because it effectively combined innovation with the customer value. The product made use of the latest technological solutions and offered an innovative operating system forming a platform that integrated the whole product. This was supplemented with a brand that stands out on the market. In consequence, by offering a new product, Apple in fact guaranteed uniform and pleasant experience connected with using it, and this was the value that became the source of the company's success [Achille, Bellaiche, Lui, <https://www.bcgperspectives.com/>].

Thus, a small share of marketing innovations should be treated as a competitive weakness of Polish enterprises that do not make full use of the potential of marketing and creative solutions it offers. Nowadays, one cannot only rely on product and process innovations because it is also necessary to skilfully combine technological solutions with customer value, and this can only be achieved through marketing innovations. Its insufficient number results in a loss of competitiveness.

When analysing Polish enterprises, one should determine the reasons for their low innovativeness compared with their European partners. One of the most frequent reasons for innovation failure indicated was lack of ideas for new solutions. Low demand for innovation was the second most frequently given reason by both industrial and service enterprises. In other EU member states, the most frequent answers were low demand and the fact it was not necessary due to the introduction of previous innovations (Table 8). Lack of ideas may mean that employees lack creativity. Another reason for this may be excessive emphasis placed by enterprises on cutting costs and streamlining processes at the expense of the introduction of new products. In times when new products and new marketing solutions offer competitive advantage, lack of resourcefulness and creativity is a serious weakness of Polish enterprises. Even in Romania, which has lower ratings than Poland, lack of ideas is indicated much less frequently.

Table 7. Types of innovations introduced by enterprises in Poland

Innovative enterprises in Poland according to innovation types (in %)											Innovative enterprises in the EU (in %)
	Industrial enterprises					Service enterprises					
Year	2014 -16	2013 -15	2012 -14	2011 -13	2010 -12	2014 -16	2013 -15	2012 -14	2011 -13	2010 -12	2012-14
Enterprises that introduced innovations	18.7	18.9	17.5	17.1	16.5	13.6	10.6	11.4	11.4	12.4	49
New or substantially improved products	12.4	11.8	11.4	11.0	11.2	6.9	4.8	6.8	5.8	7.0	24
New or substantially improved processes	15.2	13.0	12.9	12.8	12.4	10.4	7.4	8.4	8.5	9.1	22
Product manufacturing methods	10.6	9.9	10.0	9.6	9.7	2.8	2.3	3.0	2.7	3.0	
Logistic methods and/or delivery and distribution methods	4.8	3.2	3.0	3.3	3.0	5.2	2.7	3.4	2.4	3.5	
Methods for supporting processes	6.9	5.9	5.6	6.2	5.4	6.3	5.4	6.1	6.2	6.6	
Organisational innovations	9.5	8.1	8.4	8.3	10.3	7.6	8.1	9.7	7.1	10.5	27
New operating methods	6.6	6.1	6.2	5.9	7.3	3.9	4.0	4.8	3.1	4.7	
New methods for distributing tasks and decision-making powers	6.6	5.0	5.7	5.1	6.7	5.4	5.5	7.3	5.3	6.8	
New methods concerning relationships with the environment	3.5	3.1	3.5	3.4	3.8	3.0	3.5	4.0	2.8	5.8	
Marketing innovations	9.2	7.1	7.9	7.5	10.2	7.2	6.6	7.0	7.0	11.1	23
Considerable changes in the design/structure or packaging of products or services	4.9	4.2	4.4	3.9	5.2	2.9	2.2	2.0	3.0	3.8	
New media or techniques for promoting products	4.9	3.8	3.9	3.8	5.2	5.0	4.2	4.7	5.4	6.3	
New methods considering the distribution of products or sales channels	2.9	2.1	2.5	2.4	3.4	3.6	2.6	2.4	3.3	5.3	
New methods for shaping the prices of products and services	3.7	3.2	3.6	3.8	5.2	3.4	3.2	2.9	3.7	5.3	

Source: drawn up based on statistical data: Działalność innowacyjna przedsiębiorstw w latach 2013–2015 (2016); Działalność innowacyjna przedsiębiorstw w latach 2012–2014 (2015); Działalność innowacyjna przedsiębiorstw w latach 2011–2013 (2014); Działalność innowacyjna przedsiębiorstw w latach 2010–2012 (2013); <http://ec.europa.eu/eurostat/>

The most frequently indicated barriers to innovation included lack of financing from external sources and high innovation cost. These barriers are intensified by difficulties in acquiring public grants. Enterprises from the EU also indicated these three barriers as most significant. Surprisingly, despite the fact that the main reason for failure indicated was lack of ideas for innovations, enterprises relatively rarely saw lack of properly qualified staff as a barrier (Table 6). These answers may suggest that enterprises do not fully realize that lack of ideas is connected with the intellectual capital quality, even though knowledge workers are becoming the main source of competitive advantage as those who play the main part in creating technological innovations [Chyba, 2013, pp. 22-23].

Thus, it seems that the state's efforts should focus on providing enterprises with greater funding, which would to some extent eliminate barriers resulting from insufficient access to capital. At the same time, it is important to create mechanisms making it

possible to improve the quality of the intellectual capital. This will translate into a greater awareness of enterprise managers and a better access to employees having proper qualifications, including both managers who realize the significance of innovations and specialists who know how to create them.

Table 8. Enterprises that assessed the significance of reasons for not introducing innovations as „high”

	Industrial enterprises in Poland		Service enterprises in Poland		Enterprises in the EU - high significance of the factor, excluding Belgium, Denmark, Germany, Ireland, Spain, Slovenia, Finland, Sweden and UK	Enterprises in Sweden	Enterprises in Italy	Enterprises in Romania
	2016-14	2014-12	2016-14	2014-12	2014-12	2014-12	2014-12	2014-12
Low demand for innovation on the market	6,0%	6.6%	5.3%	7.3%	15,0%	12,0%	27,0%	9.2%
No need to introduce innovation on account of earlier innovations	6.4%	5.8%	5.3%	7.3%	9.8%	8.5%	17,0%	5.8%
No need to introduce innovation on account of limited competition on the market	5,0%	4.2%	3.4%	4.2%	4,0%	no data	6.3%	3,0%
Lack of ideas for innovation	7.8%	7.6%	10.2%	9.1%	7,0%	no data	6,0%	5.2%

Source: drawn up based on statistical data: Działalność innowacyjna przedsiębiorstw w latach 2014–2016 (2017); Działalność innowacyjna przedsiębiorstw w latach 2012–2014 (2015); <http://ec.europa.eu/eurostat/>

Table 9. Enterprises that assessed the significance of barriers to innovation as “high”

	Enterprises not active in terms of innovation				Enterprises active in terms of innovation	
	Industrial enterprises in Poland		Service enterprises in Poland		Industrial enterprises	Service enterprises
	2016-14	2014-12	2016-14	2014-12	2016-14	2016-14
Lack of possibility to finance innovation from the enterprise's external sources	10.1%	28.4%	3.4%	20.4%	26.2%	20.2%
Lack of possibility to finance innovation from external sources	7.6%	18.4%	3,0%	15.4%	15.5%	10.7%
Too high innovation cost	11.4%		4,0%		33.1%	32,0%
Lack of properly qualified staff in the enterprise	5.4%	11.7%	1.6%	7.5%	11.7%	13.5%
Lack of partners for cooperation	4.1%	12.3%	1.3%	7.4%	8.3%	9.5%
Difficulties in acquiring public grants or subsidies for innovation	8.1%	18.4%	2.7%	15.2%	24.9%	19.2%
Uncertain market demand for the enterprise's ideas for innovations	6.21%	17.3%	2.3%	11.8%	17.5%	19.9%
Too strong competition on the market	6.4%	18.5%	2.7%	13.7%	16.3%	19.5%
Regulations creating new liabilities	7,0%	no data	2.1%	no data		
Regulations creating uncertainty	7.8%	no data	2.1%	no data		
Regulations leading to incohesion in the whole European Union	5.5%	no data	2.1%	no data		

Source: drawn up based on statistical data: Działalność innowacyjna przedsiębiorstw w latach 2014–2016 (2017); Działalność innowacyjna przedsiębiorstw w latach 2012–2014 (2015)

CONCLUSIONS

The article compares statistical data on the innovativeness of Polish enterprises available in the form of reports on the website of the Central Statistical Office. The information gathered has been compared with similar data on European enterprises available on the Eurostat's website. Based on the data analysis and comparison it can be said that Polish enterprises are not sufficiently innovative, which has a negative effect on their competitiveness.

Compared with other EU member states, Poland's expenditure on research and development is insufficient. Enterprises also spent too little on innovation, and the structure of their expenditure to a large extent focuses on tangible assets. A positive phenomenon identified among private enterprises is the growing value of expenditure on research and development. In the future, this might translate into a greater number of innovations and their more effective use in building competitive advantage. A problem identified during the research is the structure of innovation types, with too little emphasis placed on marketing innovations.

Lack of ideas for innovations is among the most important reasons for innovation failure indicated. This probably results from poor innovative awareness of the enterprise's employees and the rather low human capital quality. One of the barriers identified is insufficient internal and external funding for research and development.

In order to improve innovativeness, one should increase expenditure on research and development on the central level. A network of institutions and organisations effectively supporting the innovativeness of Polish enterprises should be created. These organisations could provide both financial and intellectual capital, thus eliminating barriers to innovation. Another recommendation is that activities improving the human capital quality should be undertaken.

The article is contributory in nature. The information gathered can be used for further research aimed at determining the reasons for the negative phenomena listed above. It also seems important to study the intellectual capital of Polish enterprises in order to acquire knowledge necessary to improve it in the future.

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The importance of startups for construction of innovative economies

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Abstract

The aim of this article is to determine the impact of startup businesses on the innovation of the economy. The statistics are from foundation reports, specializing in the study of the startup environment in Poland, Eurostat databases and the Central Statistical Office. The article attempts to define the concept of startup as a business, based on an innovative idea or pioneering business. As a result, they are companies that create a completely new product or service, not based on replicated offers from other market players, and do not replicate existing ones. Business activity is subject to a considerable degree of risk. The analysis of the correlation between the number of Micro-enterprises and GDP per capita (PPS) as well as the number of patents issued for national inventions by the Polish Patent Office and GDP per capita (PPS) showed a strong correlation between the variables tested. The benefits of developing a country-wide startup ecosystem contribute to government-directed R & D, in order to create a favorable environment for a new business model. The development of new businesses is an opportunity to improve the condition of national economies and the situation of society, and above all to increase the innovativeness of regions.

Keywords: Startup; innovation; innovative economy; startup ecosystem

JEL codes: H32, F63, M13, O18

INTRODUCTION

Startup companies are economic entities, which relatively recently have found their place in a discussion on economic development. This term is very frequently overused as a definition for each newly initiated enterprise, even one created as franchise. Additionally it is usually associated only with e-business. It is mainly due to a lack of unanimous definition and classification criteria for these companies, as well as small literature resources on the subject.

In order to determine explicitly the subject of studies, an attempt was made in the article to define startups, treating them as companies based on innovative idea or pioneer business ventures. In result these are companies creating completely new product or service, neither basing on duplicated offers of other entities operating on the market, nor imitating the already existing initiatives. Their activity is burdened by a considerable degree of risk. Considering their financing, the studied companies do not apparently differ from the other enterprises. They base mainly on their own capital, more rarely on foreign capital. In case of startups their founders acquire capital from founders or investors, from the EU funds or from so called business angels. It is difficult to predict development predispositions for the companies of this type, particularly due to the fact, that in most cases nobody has previously paved the way of a novel product or service evaluation. A company development model, like in any other, not only startup activity, depends on many factors, yet the thesis that the discussed startup companies affect labour market and the economy of the country in which they operate, is undeniable.

The paper aims to determine the influence of startup companies on the economy innovativeness. The source of statistical data are reports of foundations specializing in investigating the startup environment in Poland and Eurostat, Strateg and StartupHub databases.

CHARACTERISTICS OF STARTUP COMPANIES

An enterprise is defined as an entity separate in economic terms, whose activity focuses on three areas: production, service and commercial. Economic difference of the company is in the first place connected with determining the company's assets and securing the expenses from own incomes. In theory many types of businesses may be distinguished, depending on their ownership forms, sizes or organizational structures. Irrespectively of the terminology, each firm strives to generate the maximum profit for the longest possible period of time. Classification of enterprise has recently encompassed a new kind of business activity, i.e. startups. Salamzadeh and Kawamorita Kesim (2015) define startups in three areas: organization, management, entrepreneurship. They defined a startup companies as newly born companies which struggle for existence. Giardino, et al. (2016) described a newly type of startup named software startups. This type of company is defined as organizations focused on the creation of high-tech and innovative products, with little or no operating history, aiming to aggressively grow their business in highly scalable markets. Being a startup is usually a temporary state, where a maturing working history and market domain knowledge leads to the analysis of current working practices, thereby decreasing conditions of extreme uncertainty. Somer, Loch and Dong said that startup companies often face not only risk, but also unforeseeable uncertainty, which means the inability to recognize and articulate all relevant variables affecting performance. So far, no new provisions have

appeared in Polish legal system, which would regulate functioning of this form of business activity. They are mostly regarded as small and medium-sized enterprises (SME). A firm employing on average no more than 10 persons per year and generating a yearly net income of maximum two million € is regarded as a micro enterprise. A definition of a small enterprise uses the criterion of the number of employees not exceeding fifty people and the level of net income below ten million € per year. A medium-sized enterprise employs no more than two hundred people per year at net income below fifty million € (Dz. U. RP, 2016, poz. 1829, z 2004 r. R. 5, art. 104-106). Startup companies usually operate in SME sector. S. Blank (2013), who so far has contributed the most to the systematizing of knowledge about the discussed area, both theoretically and empirically, pays particular attention to understanding the 'startup' term. This activity is not meant to imitate operation of a large firm. It is a temporary institution seeking a profitable, measurable and also repeatable business model. At an early stage of its activity development the organization bases primarily on suppositions and ideas, without the customer background and usually even a possibility of market analysis due to its specific character and uniqueness of its branch. S. Blank distinguished two kinds of startups, i.e. scalable startups and startups for sale. The founder is convinced that his idea will conquer the world and he would become a billionaire. At first he hopes to find a business model, which should be measurable and repeatable. Due to the necessity of raising considerable funds he chooses Israel, Silicon Valley, New York or some other large centres with technological background. This group of initiators constitutes a relatively small part of startup originators, however they are able to draw considerable attention of investors and press accumulating a risky capital.

The other type are startups created for sale. These are companies basing on creating applications by means of the least possible financial input. The founders count on the sale of their startups to bigger firms for the amount between 5 and 50 million dollars. A company buying a startup not only takes over the idea but also the people working on it (Blank, Dorf, 2013, p. 15-17).

The following are given as the key reasons of origination of the businesses discussed above:

- a considerable reduction of costs of product or service development, which took place over the last decade;
- increased opportunities to raise external capital, particularly in the framework of Venture Capital;
- creating own management principles, tailor made for the needs of the analysed enterprise;
- unbelievably fast process of consumer adapting to technologies and unmet needs for possessing increasingly more diversified know-how products (The Global Startup Ecosystem Ranking 2015, p.13-17).

E. Ries (2011, p. 40), the inventor of lean startup theory, called theory of constraints basing on lean philosophy, which defines value as a benefit offered to customers whereas all other activities, regards as a waste of time and capital, indicates the necessity to create a minimum real product. According to the new methodology, i.e. lean startup, an entrepreneur undertakes narrow-ranged and economical actions, in result of which a possibly most cost-effective product is obtained. His assumptions also pay attention to a difficult specificity of the startup market with no possibility to conduct market analyses

because of the impossibility to determine the consumer target group. The unquestionable factor contributing to intensification of development processes of these companies is their environment in which they operate. It is defined as a startup environment, which was presented as a set of entities striving to create innovative products or services including a considerable degree of risk, simultaneously basing on the available resources of the regulatory environment. Establishing startups is encouraged by large enterprises operating in city centres and focused on cooperation with other enterprises (Business to Business – B2B), but also by businesses operating internationally, which ensures for startups a more intensive and faster development (Nowacki, 2016, p. 59). Five areas were identified, whose proper functioning ensures development of startups and the whole system. These include: financial capital, human capital, social capital, legal regulations and institutional environment (Deloitte, 2016, p.4). Each area should be adequately analysed on the individual stages of establishing and running the company, determined according to: pre-seed, seed, early stage, expansion and late stage.

The first stage, called pre-seed is the creative process, referring to idea itself, technological idea, created innovation. Once a detailed scheme of the idea realization has been worked out as an actual product or service, usually an arduous seeking of investors follows. Due to high burden of risk attached to precursor activities, one must make every effort to raise funds. Precisely prepared business plan, estimated financial model, market analyses or even a report from initial market research are usually not enough for an easy access to financial means in Poland. At this stage obligatory costs connected with registration of a limited liability company with start-up capital below five thousand zlotys are estimated for about two thousand PLN. The higher the start-up capital, the higher the costs of establishing a business. Financial means for a “start” usually originate from so called bootstrapping, i.e. on the basis of own capital without any external assistance at introduced cost rigour in order to achieve only short-term objectives, which over a longer perspective may negatively affect the firm operations. The other, commonly called Family-Friends-Fools (FFF) source of fund acquisition for company’s development are families, who believe in the company’s success and in business, as well as in technological intuition of their offspring, friends supporting not only spiritually but also materially, but also other persons who are delighted by the suggested idea and wish for its market success. The second stage of startup development is called seed, when the product or service production process starts accompanied by first marketing operations, intriguing future consumers with the new but already materialized idea. With each subsequent stage of company development the chance for raising financial capital grows. Usually a cooperation with so called business angels is launched. A business angel is a physical person who invests his own means, but also knowledge and his contact data base in the enterprise at the initial stage of development but showing a considerable growth potential. Such person becomes a company shareholder, filling the capital gap.

A subsequent stage of a startup functioning on the market is Early Stage. With growing sale, the chance for raising Venture Capital, which is a part of Private Equity (PE) increases. Venture Capital are capital investments realized with an entrepreneur in order to cofinance a startup at the beginning of its development path. The mission of members of associations with VC is not only providing financial aid for startups, but also sharing their knowledge and experience contributing to long-term growth of the company. The enterprise is still burdened with a considerable risk, therefore an investor undertakes coopera-

tion with an enterprise only because of a high return on investment. VCs are a part of a wider concept, i.e. Private Equity. The term PE means capital investments not listed on a stock exchange (SE), where financial means are allocated to private equity firms.

Final stages of a startup life cycle are Expansion and Late Stage. A firm which reaches this point in its existence is already an enterprise increasing its value on the market. It more easily raises funds for extending its product portfolio. At this stage an entrepreneur should not forget that in order to stay on the market, he should constantly improve its products and services as well as widen the product range.

A startup success is considerably influenced also by the ecosystem in which it sets up and conducts its activity. A startup ecosystem encompasses many organizations, which by cooperating directly affect the startup structure. Institutions such as universities, investors, large firms, foundations or state institutions play different roles in creating its activity. Business angels, advisors and other businessmen who open up contacts with persons entering the path of business, fulfil an important function by organizing various meetings and local conferences both national and international. The process of ecosystem development is dynamic, the conditions change constantly while the, emerging institutions change the economic climate of the region (Kotsch, 2017, p. 11-13).

DEVELOPMENT OF STARTUPS ACCORDING TO A REGIONAL APPROACH

Economic growth bases among others on development of enterprises. A startup type of economic activity, although short-term and with a small range, positively affects the stimulation of local innovativeness. If a startup remains on the market longer, it contributes to an increase in GDP of the country where it operates, creates new jobs, contributes to a decline in unemployment and appreciation of the society living standards. Even today we may indicate some examples of success, such as Silicon Valley which is a cradle of startups and has been notoriously presented as a paradise for technological companies of this kind.

Table 1. Ranking of startup ecosystem in 2015

p.	Region/City	p.	Region/City	p.	Region/City	p.	Region/City
1	Silicon Valley	6	London	11	Paris	16	Sydney
2	New York	7	Seattle	12	Sao Paulo	17	Toronto
3	Los Angeles	8	Chicago	13	Moscow	18	Vancouver
4	Boston	9	Berlin	14	Austin	19	Amsterdam
5	Tel Aviv	10	Singapore	15	Bengaluru	20	Montreal

Source: own elaboration based on: (The Global Startup Ecosystem Ranking 2015, p.34).

The above list of ecosystems with the conditions most advantageous for startup companies takes into consideration four point criteria: efficiency, funding, market range, talent and experience. During analysis a statement comes to mind that large agglomerations are unmatched in this area. Unfortunately, no city or region in Poland took any important place in a ranking. Highly developed countries, with strong and well-functioning economies may shape such economic environment stimulating creative young entrepreneurs to establish their own firms based on innovations and modern technologies. However, from one year to the next an increasing number of companies of this type has been registered in the territory of Poland.

Ranking made on the basis of the Practical Know How Index indicates the dominant role of Americans in creating new knowledge, and thus the development of various kinds of startups. In spite of everything, the famous Silicon Valley in comparison to 2015 weakened in terms of the analyzed index. In the last edition of *The Global Startup*, the Eco-system has not been included in any of the Polish ecosystems. This indicates a weak position of startup ecosystems in Poland and their very slow development.

Table 2. Ranking of startup ecosystem based on Practical Know How Index

p.	Region/City	p.	Region/City	p.	Region/City	p.	Region/City
1	Houston	7	Amsterdam	13	Bengaluru	21	Jerusalem
2	Atlanta	7	Sydney	14	Melbourne	22	Ottawa
3	Seattle	7	New York City	15	Barcelona	23	New Zealand
4	Kuala Lumpur	8	Boston	16	London	24	Berlin
5	Malta	9	Singapore	17	Montreal	25	Frankfurt
6	Silicon Valley	10	Los Angeles	18	Vancouver	26	Tel Aviv
6	Toronto – Waterloo	11	Chicago	19	Paris	27	Greater Helsinki
7	Austin	12	Phoenix	20	Stockholm	28	Quebec City

Source: own elaboration based on: (*The Global Startup Ecosystem Ranking 2018*, p. 124-210).

In 2016 Startup Poland foundation registered 2677 startup companies in its database, which is a twelve percent progress in comparison with 2015. Warsaw boasts the largest number of them. Beside the capital city, also Kraków, Poznań, Wrocław and Tricity were regarded as startup ecosystems. The studies conducted by the foundation covered 697 operating companies and exhaustive analysis of the subsequent stages of their functioning. Analysis of the employment situation revealed that almost sixty percent of the surveyed described the number of jobs offered in a company between 1 and 10. Only one fifth of the startups employed more than ten persons. Over the last half-year over half of the firms created new jobs for on average two persons, in every fourth company between four and ten persons were employed and about 6% of the surveyed companies employed over eleven people. Totally over eighty percent of respondents indicated increase in job positions. The fact, disadvantageous from an employee point of view is that almost a half of all startups staff have no permanent work contracts, which results from the specific character of the branch (Skala, Kruczkowska, 2016, p.44-49).

Despite the assumption of startup company innovativeness, only fourteen percent of the respondents possessed patents. However, a half of the surveyed stated that they created a totally new products on a global scale, over 30% regarded their offer as precursory on a local scale. Attention should be paid to divergences in defining innovativeness of activity. Every second startup owner stated that modernity is in product, which is a key feature allowing the company to be regarded as a startup. Moreover, entrepreneurs indicated the modernization of an existing product, innovation in the manufacturing process, organization, marketing or business model (Skala, Kruczkowska, Olczak, 2015, p. 41-47).

A usual phenomenon is creating one product, which conquers the market fast, but unimproved, or replaced by another more modern invention leads to the company bankruptcy. Stating explicitly the causes of startup companies development process, one should take into consideration economic conditions in a given country. Economic growth among others evidences a development of enterprises sector, as indicated by the results of the statistical anal-

ysis below, which aimed to show the correlations between the number of non-financed companies employing less than 9 people versus GDP per capita according to the purchasing power parity. The value of correlation index on the level of 0.67336 evidences a strong dependency between the analyzed variables. Analysis of correlation relationships between the analyzed variables shows a positive correlation. It means that together with economic growth of the country, the number of startup companies grows dynamically.

Development of enterprises conditioned by the economic development contributes to emerging of institutions called business angels. Usually these are larger businesses, investing some small part of their capital in new initiatives. Analysis of a startup ecosystem in Poland shows increasing number of business angels, which eagerly finance hatching new ideas. These investment cover the period from three to five years and involve the amounts within the range from fifty thousand to five million zlotys. The areas of interest for the investors are e-commerce, biotechnology and computer branch (Piekunko – Mantiuk, 2014, p. 369-371). The effect of a startup activity is the final product characterized by originality and uniqueness. It is connected with obtaining patents by the originator of the idea. Analysis of the relationship between the number of patents granted by the Patent Office in Poland and economic growth revealed a positive correlation. The correlation coefficient is 0.82697 revealing very strong dependence between the analysed variables. The analysis allows to put forward a thesis that growing number of patents in a given country positively influences the country economy and advantageously affects economic growth.

In Poland the ecosystems for startup companies are only now created, investigated and discovered. Incorporating Poland into developed countries in FTSE ranking will contribute to the inflow of foreign capital, which will cause accelerated development of the enterprises sector in Poland. Exhaustive reports on startups functioning in Poland and their environment have been appearing since 2014. The founders are facing a critical challenge, i.e. raising capital for the realization of their idea. Owing to particularly great risk accompanying these types of enterprises, it is not easy. However, the successes of startups such as Facebook or Uber Technologies encourage people with ideas and investors for active measures. Currently the startup market is regarded as one of the fastest developing areas over the recent years. The list below aims to compare the biggest Polish startup ecosystem created around the capital city of Warsaw with other ecosystems developing in European cities.

One of the taxonomic methods called Czekanowski's method was used to demonstrate similarities between individual European cities. Czekanowski's diagram has been perceived currently as a universal statistical classification tool to emphasize significant similarities between the compared entities. The following variables were used for the estimation conducted using MaCzek software: the number of startups, total investments of startups (€) and the number of employees in startup companies. The values subjected to estimation refer to 2016. After the analysis it may be stated that Warsaw reveals the greatest similarity concerning the investigated features with such cities as: Athens, Copenhagen, Dublin, Malmo or Oslo.

Development of startup ecosystems in individual countries is strictly connected with conditions for conducting economic activity which are prevailing in a given country. The graph below shows values of Doing Business (B) indicator analogous to the cities covered by the taxonomic analysis.

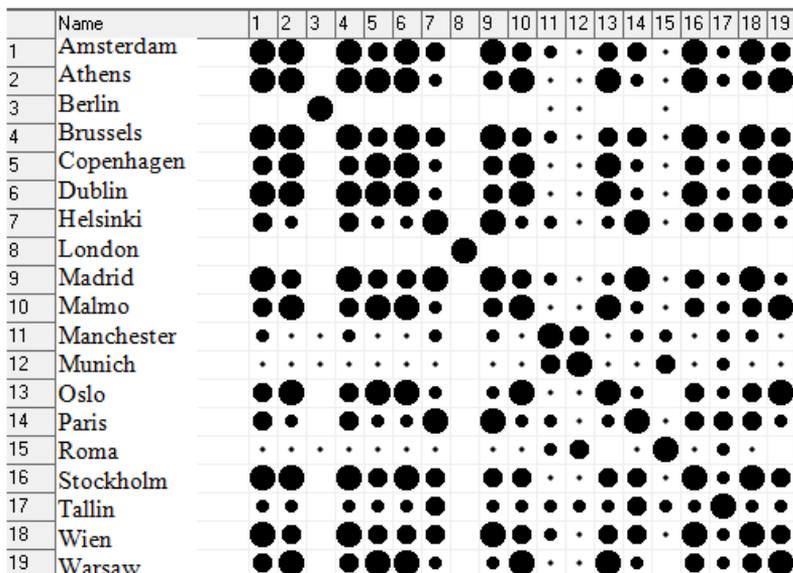
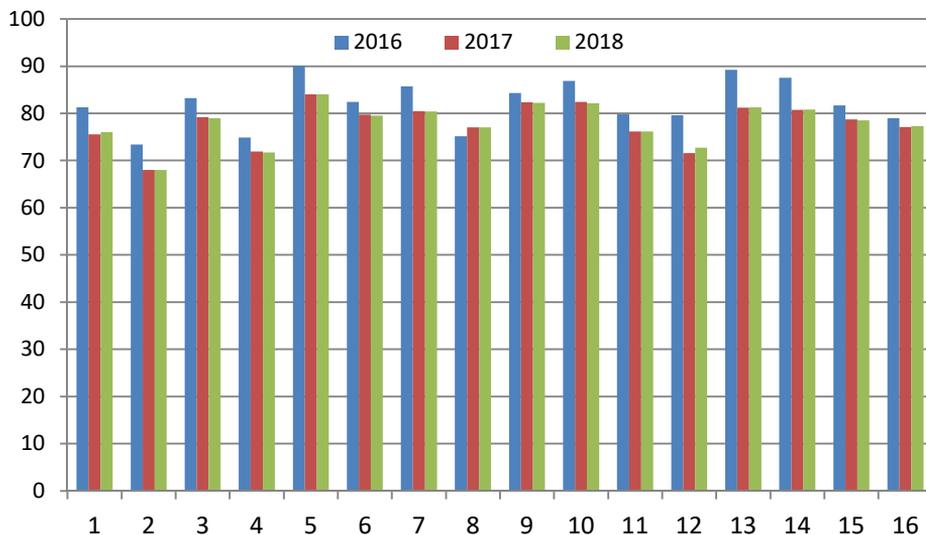


Figure 1. Czekanowski's matrix for selected European cities

Source: own calculation.



1. Netherlands, 2. Greece, 3. Germany, 4. Belgium, 5. Denmark, 6. Ireland, 7. Finland, 8. Spain, 9. Great Britain, 10. Norway, 11. France, 12. Italy, 13. Sweden, 14. Estonia, 15. Austria, 16. Poland

Figure 2. Values of Doing Business indicators for selected European countries

Source: own elaboration based on: (Doing Business reports 2016,2017,2018).

According to Doing Business report prepared by the World Bank in 2016, the following countries revealed the best conditions for conducting economic activities,

with the result exceeding 80 points: Denmark, Sweden, Estonia, Norway, Germany, Great Britain and Austria, which evidences that these were the most entrepreneur friendly countries. However, over the subsequent two years a depreciation of the analysed indicators was registered in all countries included on the list. Lower values, indicating the ease of running your own business in the indicated areas are not satisfactory. This may prove the reluctance of people to set up their own businesses. The conditions in which companies function are getting worse from year to year. Perhaps this is due to the current situation prevailing in Europe.

CONCLUSIONS

Startups raise growing interest of both science and business. They become creators of new business model of the 21st century. Their development brings numerous advantages for the whole economy, in regional, national and world dimension. Increase in the number of micro enterprises and the number of patents obtained by Polish originators stimulate economic growth, increasing GDP level per capita, as results from statistical analysis, which showed a strong correlation between the above mentioned values. Startups generate jobs, particularly for young people, owing to which household incomes grow, but also by investing in human capital they indirectly contribute to appreciation its competencies, skills and self-development. They stimulate creativity, particularly in young persons, who witnessing the success of others, themselves also decide to realize various projects. They ensure technological development, influencing creation of modern economy and make available innovative technologies to the society. Extending the range of pioneering products and services, they contribute to the promotion of country and region, improving position of the country in various rankings, such as innovation barometer. Paving the path for a development of activities based on modern technologies and brave ideas, startups support creating their advantageous ecosystem, which becomes a magnet for both national and foreign investors. The benefits resulting from startup ecosystem development in a given country contribute to State measures targeting development of these companies in order to create the environment comfortable for a new enterprise model. Development of new enterprises provides an opportunity for improving condition of national economies and situation of the societies, but in the first place for the growth of the regions' innovativeness. Creating jobs, increasing citizens' incomes and contributing to economic growth, startups are undeniable leverage of the State position. The areas of startups activity, involving mainly nanotechnologies, biotechnology, computer science or telecommunications increase innovativeness of economy.

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Sustainability-oriented competencies in entrepreneurship education: Insights from an empirical study on Polish students

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Abstract

Entrepreneurship education is aimed at shaping relevant entrepreneurial competencies needed not only to fulfil the role of the entrepreneur but also to change behaviour in order to build a culture of innovation, seeking knowledge and business opportunities to ensure sustainable economic growth and social wellbeing. Entrepreneurial competencies can be understood as knowledge, skills and attitudes having an impact on the readiness and ability to create new value as part of business or social activity. Therefore the development of entrepreneurial competencies is gaining growing interest. This article aims to determine the academic potential of entrepreneurship education in shaping competencies supporting sustainable development as well as to verify entrepreneurial competencies exemplified by students of a selected Polish university. In line with this, a quantitative study was carried out, based on a questionnaire-based survey involving students with entrepreneurship education background. This analysis allows assessing current trends in the development of entrepreneurial skills supporting sustainability at the higher education level.

Keywords: Entrepreneurship education, sustainability

JEL codes: I23, F26

INTRODUCTION

Sustainable development is considered a central model of socio-economic and ecological development at the international level both in macro- and micro-economic terms (Redclift, 2005). It is a multidimensional concept, covering environmental, economic and social dimensions (WCED, 1987). Sustainable development is interpreted differently depending on the economic school, the ethical tradition of thought, or the type of stakeholders (Lockley & Jarrath, 2013; Ramos, Caeiro, *et al.*, 2018). Ecological education, increased public awareness, and continuous degradation of the natural environment, have contributed to the dissemination of the concept of sustainable development in many areas.

In order to be able to cope with contemporary challenges, the current “Europe 2020” strategy emphasises that sustainable development can be supported, among others, through the creation of a competitive, cohesive and more environmentally friendly economy and the promotion of creativity and innovation, as well as the development of entrepreneurship (European Commission, 2010, pp. 20-21). Entrepreneurship and innovation are treated in this strategy as important tools for solving global 21st century challenges, implementing sustainable development, and creating new jobs, which leads to economic growth and increased prosperity. In this context, entrepreneurial skills and competencies can be effective mechanisms for problem solving and employing new ideas in accordance with the principles of sustainable development.

The development of entrepreneurial competencies is gaining growing interest among political decision-makers, practitioners and universities that strive to develop students’ skills and abilities in creating new enterprises (OECD, 2011; WEF, 2011). An important role in the pursuit of sustainable development is played by raising awareness and shaping pro-ecological and prosocial attitudes through formal (elementary, secondary and academic) and informal education (e.g. training, courses for entrepreneurs, self-improvement) (European Commission, 2012). Academic institutions play an important role not only in education, but also as promoters of changes in business practice (Jamali, 2016) and in the support system for the development of entrepreneurship and innovation in the market economy.

Over recent years, various articles and reports have contributed to some progress in conceptualising key competencies related to sustainable development (Segalas *et al.*, 2009; Willard *et al.*, 2010). Among the many different entrepreneurial competencies that support activities for sustainable development, for example, the ability to be innovative, interdisciplinary knowledge, and proactivity as an attitude can be mentioned (Urbaniec, 2016). However, defining competencies in the field of sustainable development is still at an early stage of development and requires further research. Therefore, one can formulate a hypothesis that actions taken by universities for entrepreneurship education have a significant impact on shaping the relevant entrepreneurial competencies supporting sustainable development.

This article aims to determine the academic potential of entrepreneurship education in shaping competencies supporting sustainable development as well as to verify entrepreneurial competencies exemplified by selected students of the Cracow University of Economics (Poland). Based on a questionnaire-based survey, a quantitative study was carried out, involving students with entrepreneurship education background. On this basis, it will be possible to indicate the role of sustainable development in the current education pro-

cess for entrepreneurship in higher education, and to answer the question how the entrepreneurial competencies of Polish students are developed in the field of knowledge, skills and attitudes. This will also allow assessing current developing trends in the field of entrepreneurial skills supporting sustainable development at the higher education level.

Consequently, the significance and essence of entrepreneurial competencies within the context of sustainable development will be explored first and, subsequently, the attempt to investigate entrepreneurial competencies among students with particular emphasis on knowledge, skills and attitudes in the field of sustainable development, will be provided. Subsequently, research methods such as: the method of analysis and logical construction, as well as the survey method based on own research among selected students will be described. The results obtained provide the basis for discussion of findings and conclusions, including the research limitations and suggestions for future research.

The development of entrepreneurial competencies within the context of sustainable development

In recent years, competencies have become increasingly important in various areas (Sánchez, 2013; Baartman, Bastiaens *et al.*, 2007). Depending on the academic discipline or context, various definitions can be found. In general, competencies are defined as everything a person knows, understands and is able to do. According to Whiddett and Hollyforde (2003, p. 13), competencies are a set of features of a given person, characteristics like motivation, personality traits, skills, self-esteem related to group functioning, as well as any knowledge a person has acquired and uses. The concept of competencies therefore includes cognitive, motivational, ethical, social and behavioural elements. It combines certain features, learning outcomes (e.g. knowledge and skills), a system of values, beliefs, habits, and other psychological and relational characteristics (Prandi, Martell, Lozano, 2018, p. 7). This means that knowledge has ceased to be the sole purpose of the educational process, and the cumulative learning outcomes for a given level of education regarding knowledge, skills and personal and social competencies are of great significance (Kuratko, 2005; Fayolle & Gailly, 2008; Lans, Hulsink, *et al.*, 2008).

Entrepreneurial competencies should be understood as knowledge, skills and attitudes having an impact on the readiness and ability to create new value (financial, cultural, social, ecological, etc.) as part of business or social activity. Entrepreneurial competencies therefore include (European Communities, 2007):

- adequate knowledge of the available personal, professional and/or business opportunities,
- skills related to project management (e.g. planning, organising, managing, directing and delegating tasks, analysis, communication and evaluation), as well as the ability to work individually and as part of a team,
- entrepreneurial attitude, reflected in proactivity and being innovative personally and socially, as well as professionally.

Exemplary entrepreneurial competencies in the field of knowledge, skills and attitudes are presented in Table 1.

If entrepreneurship is considered an individual's ability to turn ideas into action (European Communities, 2005, p. 17), this is a key competence for all, and the main goal of

entrepreneurship education at the higher education level should be to develop skills and entrepreneurial spirit in line with the principles of sustainable development.

Table 1. Entrepreneurial competencies

Key theme	Subthemes	Interpretation used in this study
Knowledge	Mental models	Knowledge on how to get things done without resources, risk and probability models.
	Declarative knowledge	Basics of entrepreneurship, value creation, idea generation, opportunities, accounting, finance, technology, marketing, risk, etc.
	Self-insight	Knowledge of personal fit with being an entrepreneur/being entrepreneurial.
Skills	Marketing skills	Conducting market research, marketplace assessment, marketing products and services, persuasion, getting people excited about your ideas, dealing with customers, communicating a vision.
	Resource skills	Creating a business plan, creating a financial plan, obtaining financing, securing access to resources.
	Opportunity skills	Recognising and acting on business opportunities and other types of opportunities, product/service/concept development skills.
	Interpersonal skills	Leadership, motivating others, managing people, listening, conflict resolution, social skills.
	Learning skills	Active learning, adapting to new situations, coping with uncertainty.
	Strategic skills	Setting priorities (goal setting) and focusing on goals, defining a vision, developing a strategy, identifying strategic partners.
Attitudes	Entrepreneurial passion	"I want". The need for achievement.
	Self-efficacy	"I can". Belief in one's ability to perform certain tasks successfully.
	Entrepreneurial identity	"I am/I value". Deep beliefs, role identity, values.
	Pro-activeness	"I do". Action-oriented, initiator, proactive.
	Uncertainty/ambiguity tolerance	"I dare". Comfortable with uncertainty and ambiguity, adaptable, open to the unexpected.
	Innovativeness	"I create". Novel thoughts/actions, unpredictable, radical change, innovative, visionary, creative, rule breaker.
	Perseverance	"I overcome". The ability to overcome adverse circumstances.

Source: Adapted from (Lackeus, 2014, p. 382).

In many countries, including the USA and EU member states, higher education institutions offer entrepreneurship education enabling students to learn about the general requirements of the entrepreneur's profession, as well as contemporary ecological and social challenges (Salvioni, Franzoni & Cassano, 2017). Examples of such universities are presented, for example, as part of the project titled "Support Systems for Sustainable Entrepreneurship and Transformation", managed by The Borderstep Institute for Innovation & Sustainability (Germany), Linköping University (Sweden), and Aalto University (Finland), which identified 42 examples of good practices used by universities in Finland, Germany, Sweden, the United Kingdom and the USA (Fichter, Geier & Tiemann, 2016).

Another example is the international initiative developed in 2007 coordinated by UN Global Compact and leading academic institutions titled “Principles for Responsible Management Education” (PRME). These principles are implemented by over 730 business schools worldwide (PRME, 2018). Educational institutions participating in the PRME initiative are obliged to implement the following principles PRME (2017):

- developing among students the ability to generate sustainable values for business and society as a whole,
- implementing the principles of social responsibility in curricula and academic activity in accordance with the values promoted in the Global Compact document,
- creating educational materials, processes and environments fostering the effective teaching of responsible business,
- conducting research in the field of corporate social responsibility,
- undertaking cooperation with businesses in the sphere of corporate social responsibility,
- supporting dialogue with stakeholders and debates on social responsibility and sustainable development.

Due to the fact that business schools tend to promote a “profit-first” mentality, critics challenge their ability to implement sustainability-related educational programs (Lourenço, Jones & Jayawarna, 2013). The key problem is that sustainable development requires meeting the challenges of short-term business interest on the one hand, and long-term development of both society and the company itself, on the other hand (Urbaniec, 2015).

Assuming that every company or institution can and should be more ecological, there is a need to develop appropriate skills and attitudes in this area. Education for entrepreneurship, taking into account the goals and principles of sustainable development, allows acquiring the values, skills and knowledge needed to build a sustainable economy. Appropriate education also enables the development of skills that generate an entrepreneurial spirit and prepare future leaders for solving more complex, interrelated and rapidly changing problems in accordance with sustainable development principles.

In order to be able to meet the current and future requirements of society in accordance with the concept of sustainable development, a new model of the entrepreneurial competence system is needed. An important role in the professional development of managers for sustainable development is played by the ability to solve problems, analyse complexity and discover more sustainable forms of production and consumption, or the ability to work in a cultural environment on a global scale (UNESCO, 2012, p. 4). Moreover, Hull, Kimmel *et al.* (2016) identified transdisciplinarity and commitment, *inter alia*, as competencies supporting the development of sustainable development leaders. The key competencies, from the point of view of entrepreneurship education, also include (Urbaniec, 2016):

- proactivity – an entrepreneurial attitude based on commitment and problem-solving skills,
- innovativeness – the development of entrepreneurial skills, consisting in the ability to recognise opportunities, generate ideas, make changes to implement complex and interrelated sustainable development goals, and
- interdisciplinarity, or entrepreneurial knowledge, not only in the economic, but also the social and ecological dimension, supporting systemic solutions and the ability to analyse and evaluate current challenges in a holistic approach.

Such competencies combine the need for the ability to cooperate with one another with understanding of why and how to act in order to solve current socio-economic and environmental problems. The concept of entrepreneurial competencies in the field of sustainable development should be based on a holistic and future-oriented approach, which in practice should form the basis of decision-making structures, especially such competencies as: critical assessment of opportunities, and commitment to engage and take risks (Dean & McMullen, 2007; Kapitulčinová *et al.*, 2015). Although in recent years various studies have contributed to some progress in the conceptualisation of key competencies within the context of sustainable development (Segalas *et al.*, 2009, Willard *et al.*, 2010), the definition of competencies in the context of sustainability is still at an early stage of development. That is why it is important to conduct further research in order to identify potential opportunities for developing sustainability-oriented competencies within the framework of entrepreneurship education.

RESEARCH METHODOLOGY

As mentioned in the Introduction, this article aims to determine the academic potential of entrepreneurship education in shaping competencies supporting sustainable development, and to verify entrepreneurial competencies exemplified by students of the Cracow University of Economics (Poland). The research hypothesis assumes that actions taken by universities for entrepreneurship education have a significant impact on shaping the relevant entrepreneurial competencies supporting sustainable development.

A survey based on a questionnaire was employed as the research method. Survey research is a valuable approach to data collection and may be used to investigate any organisational issue or problem either inside or outside of the organization (Crowther & Lancaster, 2008). The choice of this method is justified because it allows verifying the entrepreneurial competencies available in literature, and identifying relevant competencies from the point of view of Polish students as part of the analysis conducted on the example of a selected group of students. The survey concerned entrepreneurial competencies in the field of knowledge, skills and attitudes, with particular emphasis on issues related to sustainable development. The basis for the development of the questionnaire were the entrepreneurial competencies presented in Table 1, which were adapted to the needs of the research objective and extended to include sustainable development issues. The questionnaire contained closed questions, rated according to the seven-point Likert scale (Dawes, 2008). This scale allows for more diverse answers of respondents, where one means “strongly disagree”, two – “disagree”, three – “moderately disagree”, four – “I don’t know”, five – “moderately agree”, six – “agree”, seven – “strongly agree”. Due to the large dispersion of responses and the similar significance of some scales, the results of the survey on scales 1 and 2 as well as 6 and 7 were aggregated to a 5-point scale, where one covers “disagree”, two – “moderately disagree”, three – “I don’t know”, four – “moderately agree”, five – “agree”. This enabled a more accurate interpretation of the results in comparison to those obtained on a 7-point scale.

For the purpose of the research a convenience sampling was used which is a specific type of non-probability sampling method that relies on data collection from population

members who are conveniently available to participate in study. This method allows for a great ease of research, letting researchers focus on analyzing the data (Given, 2008). Nevertheless the results of the convenience sampling cannot be generalized to the target population due to under-representation of the sample in compare to the population of interest (Bornstein *et al.*, 2013). The research was carried out in 2016 on a sample of 42 students of the Cracow University of Economics. The respondents were second-cycle (Master's) students from the "Entrepreneurship and innovations" specialisation offered in the field of economics. Among the respondents, 69% were female students and 31% were male. It is worth emphasising that the respondents were students of the last semester of their Master's studies education, *inter alia*, the final stage of higher education. Although the small research sample does not allow for the generalisation of results, it nevertheless constitutes a preliminary attempt to empirically verify entrepreneurial competencies identified on the basis of literature on the subject. This allows indicating current trends in the development of entrepreneurship skills, as well as assessing the role of higher education in the shaping of entrepreneurial competencies that support sustainable development.

AN ANALYSIS OF ENTREPRENEURIAL COMPETENCIES FOR SUSTAINABLE DEVELOPMENT BASED ON EMPIRICAL RESEARCH

Shaping entrepreneurial competencies is a complex process and includes not only knowledge of the available possibilities of personal, professional and/or business activity, but also skills related to both individual work and team cooperation, as well as entrepreneurial attitude, reflected in initiatives, proactivity, innovativeness in one's personal and social life, as well as professional life. It should be added that the competencies analysed were defined by Lackeus (2014) and extended by the author to competencies related to sustainable development in accordance with the research goal of the article.

On the basis of the research conducted among students of the "Entrepreneurship and innovations" specialisation, it can be concluded that the majority of respondents evaluated their entrepreneurial competence in knowledge positively, especially general knowledge of economics, accounting, finance, marketing, risk management, etc. (36%). However, the use of the acquired knowledge to build creative and innovative solutions (without resources) was assessed rather poorly as "moderately disagree" (36%) and "I don't know" (29%). In the context of sustainable development, the majority of respondents indicated that they had knowledge about the social responsibility (29%) as well as about the ecological impact of businesses (22%) (Table 2).

Analysing entrepreneurial skills, it can be seen that the majority of respondents pointed to high marketing skills (market research, creating a business plan), interpersonal skills (leadership, team management), learning skills (active learning, adapting to new situations) and strategic skills (setting priorities, goal setting and focusing on goals). Analysing skills within the context of sustainable development, e.g. ability to identify new opportunities (33%), and ability to make changes in order to achieve complex corporate sustainability goals (31%), the majority indicated that they do not know or do not have an opinion (Table 3).

Table 2. Entrepreneurial knowledge competencies (in %)

What kind of entrepreneurial knowledge do you have?	Low			High	
	1	2	3	4	5
Knowledge about how to get things done without resources	19	36	29	10	7
Knowledge about how to combine resources in new ways to achieve goals	15	24	33	7	22
Basics of economics, accounting, finance, marketing, risk management, etc.	2	7	31	24	36
Knowledge of personal fit with entrepreneurship career	12	7	38	17	26
Knowledge about the social responsibility of businesses	9	14	21	29	27
Knowledge about the ecological impact of businesses	19	19	21	19	22

Source: own study.

Table 3. Entrepreneurial skills competencies (in %)

What kind of entrepreneurial skills do you have?	Low			High	
	1	2	3	4	5
Conducting market research, marketplace assessment	9	19	21	24	26
Dealing with customers	5	10	24	14	47
Recognising and acting on business opportunities	7	10	36	19	29
Creating a business plan, including a financial plan	14	21	12	31	22
Obtaining financing	23	19	24	14	19
Leadership (leading and managing a team, motivating others, conflict resolution)	12	10	21	26	31
Active learning, adapting to new situations	2	10	19	29	41
Coping with uncertainty	10	12	26	24	29
Setting priorities (goal setting) and focusing on goals	0	7	17	33	43
Developing a strategy	7	10	33	31	20
Thinking outside the box (generating ideas)	7	14	26	24	29
Ability to identify opportunities for new ways to conduct activities	9	19	33	24	15
Ability to make changes in order to achieve complex corporate sustainability goals	2	26	31	21	19

Source: own study.

There are not only knowledge and skills, but also attitudes that play an important role in the shaping of entrepreneurial skills supporting the sustainable development of enterprises. These competencies are reflected in readiness to take various initiatives, solve problems, and make decisions in uncertain situations. Especially the dealing with new challenges (42%), learning from failure (55%) and relatively high self-confidence (48%) should be assessed positively (Table 1). All those competencies are also relevant due to the implementation of sustainability principles.

Shaping entrepreneurial attitudes is a complex process that should start at the level of early school education and be continued during subsequent stages of education, including the academic level. This process can be supported by various educational and

training programs, as well as adequate infrastructure conducive to undertaking own ventures (e.g. incubators). Shaping attitudes also requires a certain initiative from students, e.g. through apprenticeships or entrepreneurial training, participation in job fairs, or exchange of experience with business practitioners (e.g. student research groups). Entrepreneurial attitudes affect the entrepreneurial intentions of people, which in turn stimulates their behaviour towards being entrepreneurial (Pittaway & Cope, 2007; Wach & Wojciechowski, 2016). It should be added that Lackeus (2015) claims that entrepreneurial attitudes are not only the result of innate personality traits, but also the individual's relationship with the socio-cultural and economic environment.

Table 4. Entrepreneurial attitude competencies (in %)

To what extent do you agree with the following statements?	Disagree			Agree	
	1	2	3	4	5
I want to be an entrepreneur	14	10	31	24	21
I can master difficulties	2	7	31	29	31
I have a lot of confidence in myself	5	10	19	19	48
I always find a solution to a problem	5	5	29	26	36
I take action proactively and apply new knowledge practically	2	17	10	45	26
I make decisions in uncertain situations when outcomes are difficult to predict	10	19	26	21	24
I learn from failure	2	7	12	24	55
I welcome every new challenge	2	2	31	12	42

Source: own study.

Shaping an entrepreneurial approach, on the one hand, helps young people using entrepreneurship education to develop their business knowledge and key skills and attitudes (including creativity, initiative, perseverance, teamwork, risk understanding and sense of responsibility) and, on the other, supports the implementation of ideas into life and significantly improves employment opportunities (European Commission, 2013, pp. 6-7). The development and improvement of entrepreneurial competencies increase, *inter alia*, the perception of appropriate opportunities, effective assessment of opportunities, effective risk management, creative problem-solving, the creation and building of value and networking.

DISCUSSION AND CONCLUSION

The development of entrepreneurial competencies takes place through entrepreneurship education. Entrepreneurship education should be seen not as a way to solve all socio-economic problems, but rather as a way to change behaviour in order to build a culture of innovation, seeking knowledge and business opportunities to ensure sustainable economic growth and social wellbeing. Entrepreneurship education is aimed at shaping relevant entrepreneurial competencies, needed not only to fulfil the role of the entrepreneur but also to improve employment opportunities. On the current, unstable labour market, in particular entrepreneurial, creative, quick and non-standard people with the courage to take up new challenges and constantly improve their skills have a chance to improve em-

ployment conditions and increase their opportunities for development. As the theoretical analysis indicated, entrepreneurship education aims to develop comprehensive entrepreneurial features, innovative spirit values, and entrepreneurial skills. It can be treated as a process of change and creation of knowledge, skills, attitudes and entrepreneurial opportunities through education, training, consulting or experience.

Based on the empirical analysis, it can be concluded that the actions taken by universities for entrepreneurship education have a significant impact on shaping the relevant entrepreneurial competencies supporting sustainable development. Research carried out among students of the Cracow University of Economics confirmed this hypothesis. The acquisition of appropriate entrepreneurial competencies in the field of knowledge, skills and attitudes is of key importance in the pursuit of sustainable development. Especially competencies in the field of skills and attitudes should be highly assessed among the surveyed students, while competence in the field of knowledge requires further development and improvement. Students indicated that they have basic economic knowledge, but assess their knowledge on creating innovative and creative solutions relatively poorly.

To support the effective implementation of sustainable development, entrepreneurship education should be extended by making changes to the education system for entrepreneurship, e.g. through changes in curricula and teaching methods, adapting curricula in higher education to the needs of the economy, focusing on content related to creativity, developing creative skills, and increasing emphasis on entrepreneurial competencies, cross-cutting and interdisciplinary skills, taking into account the specificity of sustainable development (Urbaniec, 2016).

A positive development trend is also the fact that a growing number of companies see the need to undertake voluntary ethical, environmental or social actions and consider such issues among the elements in the recruitment of graduates. Achieving a sustainable future requires those employed in the labour market to have different values, attitudes, skills, habits and behaviours. Unfortunately, current educational activities are not enough to achieve sufficient progress in these areas. Sustainable development requires a change in consciousness and forms the basis for further decisions and actions by supporting personality development in order to be able to cope with complex situations and make appropriate decisions, take responsibility, and act in accordance with sustainable development requirements.

In addition, it should be emphasised that every university graduate should possess entrepreneurial skills that will increase his ability to compete with others for a place of employment on an increasingly global and demanding labour market. Students' competencies are the subject of numerous studies, as well as discussions in academic environments or among employers (in particular HR specialists and consultants responsible for the recruitment and selection of candidates for work). For this reason, it is important that educational programs take into account the expectations of the labour market and current socio-economic and civilisational challenges, which requires a dialogue between academia and business. Universities can contribute to the shaping of entrepreneurial competencies that support the implementation of sustainable development principles in various ways, e.g. through targeted education programs, ongoing research, and cooperation with stakeholders. The role of higher education in entrepreneurship extends far beyond the transfer of knowledge, as it also includes partici-

pation in ecosystems, partnerships and alliances of industry sectors. As part of this process, the nature and type of involvement of stakeholders who can support the university's activities should be taken into account.

Despite the effort that it has been put into designing the research, this study is not without limitations. A common limitation in this type of study derives from convenience sampling method which relies on data collection from population members who were conveniently available to participate in study. Therefore the contribution of the paper to the research field is moderate because of a small sample. Due to under-representation of the sample, the research results cannot be generalized to the target population. However, the preliminary results can be utilised for a more advanced analysis in the future. Similarly, it may be interesting to carry out a geographical comparison with other countries in order to analyse whether the results of this work can be extrapolated to different economic and university environments. Moreover, it is important to conduct further research in order to identify potential opportunities for developing sustainability-oriented competencies within the framework of entrepreneurship education.

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HR practices on diversity: Evidence from the US pharmaceutical companies' subsidiaries in CEE region

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Abstract

This paper investigates the diversity management in pharmaceutical multinational companies and specifically of their official entities in Central and Eastern Europe. It argues that diversity management measures vary between headquarters and subsidiaries as the country regulations on diversity are different across Europe. Data was gathered on diversity management through secondary information of top ten US-based pharmaceutical companies' corporate websites (listed in Fortune 2000) and their code of conducts. The covered US pharmaceutical companies possess operations in the CEE region. It is employed descriptive statistics showing that the local subsidiaries in Central and Eastern Europe refer mainly to the HR practices and code of conduct of the parent company without having their own code of conduct. The results of the paper demonstrate that diversity management measures differ widely between headquarters and subsidiaries and that many of the diversity dimensions (e.g. visible and non-visible dimensions e.g. gender, age, sex, sexual orientation, disability, nationality, ethnicity, minorities, religion and education background) are not covered at all in the subsidiaries in the CEE region.

Keywords: diversity; dimensions; US pharmaceutical companies; HR practices

JEL codes: F23

INTRODUCTION

Today organizations are facing many endeavours in regards to diversity management. There are quite many major changes in workforce structure along with globalized markets and international competition. Thus the increasing amount of diversity organizations must manage, both internally and externally. Many diversity specialists, scholars and business leaders argue that industries and organizations interested in being competitive and sustainable in the twenty-first century need to take competitive advantage of a diverse workplace (Soutar, 2004; Yang, 2005). But to do so successfully, leaders and human resources managers have to reshape their approaches in regards to management and leadership (Jones, 1989).

This new way of thinking about diversity focuses on meeting the needs of the individual and not so much on an HR-centered initiative. Today, it is not only about having diversity within a company but leveraging that diversity to produce better products and services.

It is crucial to hire and maintain a diverse workforce, so gender and racial/ethnic initiatives will be launched and maintained into the foreseeable future. There is much to learn from leaders in diversity and inclusion, but it is important to remember that every company's Diversity & Inclusion initiatives will look different. Therefore, strategic diversity management initiatives have to address the specific industry and the companies' needs in terms of diversity. This however, also means that global strategies have to be adopted locally.

The paper aim is to investigate what dimensions of diversity management are reflected in the US-based pharmaceutical companies in their US headquarters and CEE respective subsidiaries. Further, the study raises the question if US pharma companies are managing diversity locally or globally in terms of practices, approaches and techniques.

Table 1. List of US-based Pharmaceutical companies having subsidiaries in CEE region

Company Name	Subsidiaries' Locations	HQ's Location
Pfizer	Austria, Bulgaria, Romania	US
Johnson&Johnson	Austria,Czech Republic, Slovakia, Poland	US
Baxter	Austria, Bulgaria, Czech Republic, Poland	US
Bristol-Myers Squibb	Czech Republic, Slovakia	US
Lilly	Czech Republic, Romania	US
Amgen	Hungary, Austria, Bulgaria	US
AbbVie	Czech Republic,Hungary	US
Merck & Co.	Austria, Bulgaria, Czech Republic	US
Biogen Idec	Austria, Croatia, Bosna & Herzegovina	US
Actavis	Austria, Bulgaria, Hungary.	US

N=10

Source: own study.

A diversity management strategy is of paramount importance for an organization to effectively manage a diverse workforce by promoting personal and professional development and create a positive work environment. Organizations need to be mindful of removing any barriers that may hinder progress such as categorizing people into certain positions, always recruiting from the same source, and grooming and developing certain people 'liked' by senior management.

It needs to be remembered that diversity is not an ‘initiative’ or a ‘project,’ it needs to be an ongoing core aim and core process. An effective diversity management strategy has a positive effect on cost reduction, creativity, problem solving and organizational flexibility (Mannix & Neale, 2005).

Diversity in pharma business

As all industries, the pharmaceutical industry is faced with the challenges presented by today’s economic climate. This, in conjunction with workforces from different ethnic groups, backgrounds, religions and others catering for a diverse customer base, calls for strategic diversity management at all levels of the company and in all subsidiaries.

Why should pharma business be concerned with diversity? The pharmaceutical industry needs all employees to perform well to sustain success, and for them to perform well they need to feel valued. All employees need to be treated differently in ways that are fair and bring out the best in them, but at the same time meet the business needs and objectives. The mindset here has to be one of thinking of differences and communalities as assets and maintaining a balance with personal and business responsibilities creating win win solutions.

To date many pharmaceutical companies have used diversity management as a key to improving the health and well-being of the world through the passion of its employees. For example, diversity is a central theme of the culture across the Johnson & Johnson family of companies, as well as Pfizer.

Thinking globally, acting locally

Many global corporations have realized that in order to manage diversity in the headquarters and in their subsidiaries, they have always to adapt to the local conditions and norms. Hence, it requires extremely individual approach as many CEE countries still do not possess legal acts and policies on many diversity dimensions as LGBT, minorities and others, which pinpoint the rule that ‘One size does not fit all’ in terms of diversity management approach. To act locally means conforming of national strategies and policies that take into account the particular location’s core diversity measures e.g. gender quotas, work opportunities during maternity, women leadership initiatives and others. This means that all diversity measures will comply and intertwine with the legal and cultural policies and norms (Mortimore, 2014).

Diversity management dynamics vary considerably worldwide in terms of pre-requisites for diversity management policies and initiatives implementation. The main idea around diversity and inclusion programs is to maximize the productivity and performance of all employees to fulfill the company assignments and enhance business results. The organizations cannot expect any major success without recognizing, tolerating and balancing diversity management practices (Kirton & Greene, 2015).

Around the world the issues of gender and, increasingly, age and disability are the strongest elements of diversity. The issue of the ageing workforce is also one for nearly every industrialized country. Maintaining an adequate labour force will increase competition for talent, and require organizations to retain older workers and tap into underutilized sources of talent – namely women, ethnic minorities, immigrants and people with disabilities. So the workplace will become increasingly diverse. If not managed well, this diversity will detract rather than enhance business results.

US pharma provider Johnson & Johnson with many subsidiaries in the CEE region, for example, realized that to be successful in global diversity, it needed culturally appropriate efforts launched for every region. The company was struggling to combine its diversity efforts in the United States and Europe, so it conducted its first-ever live video conference on mutual perceptions, diversity and respect. Clients and employees reported increased productivity, and over 100 survey participants reported the conference was the most valuable training they had ever experienced.

METHODOLOGY

Dataset

For the purpose of the paper, is collected secondary data from the top ten pharmaceutical US companies with operations in Central and Eastern Europe. The US pharma companies are among the top in the CEE region in terms of number of employees, number of subsidiaries, turnover and volume of sales. The data has been gathered from the companies' websites, their code of conducts and from other secondary based sources as Bloomberg, Fortune 2000 and Thomson Reuters One. In the paper we collected the following information: existence of local and global diversity management strategy and corresponding measures with regard to gender, age, sexual orientation, (dis)ability, religion and ethnicity. We have limited the exploration to those diversity dimensions which are covered by the EU diversity legislation. In the paper the companies' websites, code of conducts and other secondary based sources have been analyzed in terms of diversity management measures.

Table 2. List of US pharmaceutical companies and their code of conducts in the US & CEE

Company Name	Code of Conduct in the US	Code of Conduct in the CEE region
Pfizer	X	-
Johnson&Johnson	X	-
Baxter	X	-
Bristol-Myers Squibb	X	-
Lilly	X	-
Amgen	X	-
AbbVie	X	-
Merck & Co.	X	-
Biogen Idec	X	-
Actavis	X	-

N=10

Source: own study.

DISCUSSIONS AND EXPECTED RESULTS

'Glocal' as a term is explained as a connection between global and local practices (Swyngedouw, 1997b). Historically US multinational corporations have introduced diversity management measures and in many regions of the World, it is very difficult to state that respective countries possess specific diversity management measures. It raises the question if we can speak about local diversity management. Many countries as China, India, Russia and others do not have local diversity management tools, which makes

clear why we cannot talk about local diversity management. Moreover, CEE region has its own specifics on Diversity management, which makes the region unique in terms of existence and possible implementation of diversity measures and practices. Having analyzed the code of conducts of the selected US pharmaceutical companies, it is obvious that the companies possess code of conducts on their domicile website.

Also, on the selected companies' websites we can find significant amount of information on diversity and specifically how the companies are managing diversity globally. At the same time, in majority of the companies' website there are information on specific diversity management measures as trainings, awards, programs and other initiatives referring to many of the diversity dimension. Thus, on a global level the US pharma companies are putting significant efforts into promoting diversity and applying respective measures towards increasing integrity, transparency and staying compliant with their strategies and code of conducts. In the US-based pharma companies more dimensions of diversity are reflected and included in the code of conducts in compare to their branches across the CEE region.

Table 3. Sex, gender, sexual orientation in the selected Code of Conducts

Company Name	Sex	Gender	Age	Minorities	Religion	Sexual orientation
US Headquarters	10	10	9	9	6	6
CEE subsidiaries	2	6	1	1	0	1

N=10

Source: own study.

Moreover, the selected companies demonstrate that for them is very important to manage diversity globally in the context of human resource management and specifically to equal employment opportunities, inclusion and minorities, etc.

Based on the same companies' analysis in terms of code of conducts, local websites of their subsidiaries in the CEE, we can state different approach on managing diversity within the region. Any of the selected US pharma companies does not have fully translated code of conducts into any of the CEE languages, whereas the CEE subsidiaries refer to their US parent code of conduct. In majority of the CEE countries Diversity management is still under searched and there is no information on how companies should refer to diversity dimension as sexual orientation, transgender rights, etc. It stems from the fact that in the CEE region in many of the countries there are no official regulations, directives or normative documents, which are dealing with diversity dimensions such as sexual orientation, minorities rights, disability and others due to the fact that either the countries have been post-Soviet and all this has prohibited or due to the fact that the countries are relatively homogeneous in terms of religion, ethnicity, culture and life style.

Almost all studies on diversity management have been done in Western Context and only a few exist for other cultures. As most Western countries have multiculturalism, we cannot state the same for CEE region, where the population are much more homogeneous and level of diversity is much lower in terms of nationalities, religion, ethnicity and other diversity dimensions representations. It is not new to the practitioners and academicians that diversity management is a Western Concept but based on the literature review combined with postcolonial perspectives this thought emerges.

Referring to the US Pharma subsidiaries in the CEE, it is evident that there is lack of information on diversity on their websites and just few of them publish information what initiatives and programs have been devoted to managing diversity within the headquarter.

Interestingly, most of the Code of Conducts in the US pharma subsidiaries across the CEE region do not contain any information in several diversity dimensions as shown in Table 4 but at the same time there is approved official EU Antidiscrimination Directive (RL 2000/78/EG). This contradiction sheds a light on disparities in the diversity management practices between the Headquarters of the US pharma companies and their subsidiaries in the CEE region. Therefore, our study argues that the US Pharmaceutical companies in the CEE manage differently diversity on a global and local level but at the same time many of the diversity dimensions have been translated into the local conditions of the region and there are trends nowadays that these companies will be referring more and more to wider range of diversity dimensions because they know that if they would like to be competitive and successful in the region they have to fuse the local with the global techniques and measures on managing diversity. All in all, this increase of diversity measures with regard to those dimensions, which got less attention in the subsidiaries so far, may be argued with increasing societal and political pressure. From a neo-institutional perspective (Walgenbach & Meyer, 2008), such expectations for organizations work as driver in order to set up or sustain societal legitimacy of diversity.

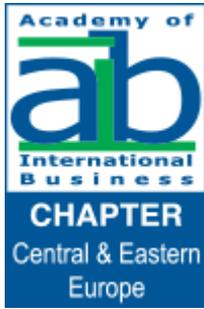
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Influence of national culture on website characteristics in international business

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Abstract

Cultural diversity is an important factor influencing the effectiveness of communication tools, including websites, on international markets. The aim of the article is to make an inventory of the current scholarly knowledge on cultural differences and what they recommend for adapting websites to different cultural factors on foreign markets. The review of the literature presented in the article indicates a variety of approaches by different authors and varying scopes of their work. This article proffers its own guidelines for website design, which, in contrast to previous studies, usually focused on selected areas, offers a comprehensive view dedicated to cultural clusters identified within the framework of the GLOBE project. A broad overview of models of cultural dimensions, presented in the first part of the article, was the starting point for classifying existing studies on adapting websites to cultural factors. It also informed a description of differences in the behavior, preferences and attitudes of consumers residing in different parts of the world, which may affect their actions on the Internet.

Keywords: cross-cultural differences; national cultures dimensions; websites design; cultural adaptation of websites

JEL codes: M16, M31

INTRODUCTION

Ongoing internationalization and globalization of the economy affect the growth of international expansion of enterprises. The presence on the international market, often in several countries, forces constant observation of the economic, political, legal, technological, demographical and socio-cultural factors in the countries of expansion. Different conditions in the environment frequently propel firms to employ diversified tactics to create and manufacture new products, as well as organize sales and communicate with the market.

A term that is associated with internationalization of companies is "distance". It is interpreted not only as a geo-distance, but also more broadly in terms of factors differentiating the home market from expansion markets. One classification of the distance dimensions was carried out by Ghemawat in its CAGE model (Ghemawat, 2001). The name of model is an acronym of the English words that refer to the dimensions of distance: cultural, administrative, geographic, economic. The research on distance as well as attempts at its modeling and measuring was also conducted by Johanson and Vahlne (1977), Barkema et al. (1996), Dow and Karunaratana (2006), Brewer (2007), Palmero et al. (2013), Zhang (2014), Przybylska (2016), Niedzielska (2014 a, b), Daszkiewicz (2016), Danik (2014) and Rozkwitalska (2011).

Technological progress, in particular in communication and transport, combined with the liberalization of economies and political and administrative integration, has a significant impact on reducing gaps between countries. Friedman sees the sources of distance minimization in the development of the Internet, changes in the configuration of value chains (outsourcing, offshoring, supply-chaining) and new forms of workflow management (Friedman 2006).

It would seem that enterprises, when making decisions on expansion into foreign markets, often choose those with the smallest distance, which means that they are economically, administratively and culturally similar and geographically close. It should be stressed that in making decisions about internationalization, it is not so much the geographical distance that matters as the mental distance. The level of perceived differences results from uncertainty, ignorance and lack of experience on foreign markets, not from the actual situation. The research on mental distance was conducted by Sousa and Bradley (2005), Niedzielska (2014b), and Wąsowska, et al. (2016).

Out of all dimensions of distance in the CAGE model, the cultural one is the greatest challenge for doing business internationally. In the case of administrative, geographical and economic distance, the ease of acquiring knowledge is much greater. Cultural factors and differences are much more difficult to observe and the process of recognizing and understanding them is longer. The socio-cultural environment has a very broad impact on the activities of companies. This applies to industries offering goods on both the consumer and institutional markets. These factors have a significant influence on buying behavior and should be considered in selection and development of marketing tools (Duliniec 2007).

Conducting international business using modern Internet technologies also requires consideration of the variability of the cultural environment. Despite the fact that the Internet is treated as a global medium, its users differ in social and cultural terms depending on continents, countries, regions and often even within the same countries. The use of strategies based on the standardization of activities in the belief of cultural prox-

imity and lack of distance, can lead to adverse effects. This lack of cultural sensitivity can also lead to an inappropriate implementation of Internet tools.

THE CONCEPT OF CULTURE

International research has consequently suggested that culture is reflected in marketing communications (e.g., Tse, Belk and Zhou, 1989, Albers-Miller and Gelb, 1996, House et al., 2004, Dudziak, 2012). Moreover, the more a marketing message is adapted to the local culture, the more effective it will be. (Luna, Peracchio and de Juan, 2002; Singh, Zhao, Hu, 2003; Baack and Singh, 2007).

Culture is an interdisciplinary concept, analyzed by representatives of many disciplines of science, including philosophy, archaeology, anthropology, ethnography, sociology, psychology, cultural studies, history, economy and management (cf. Włodarczyk 2003 and Hańderek 2015). Since Hofstede's first study on the relationship between national and organizational culture in the 1960s, the interest in this topic has stayed high (Danik and Duliniec 2014).

According to A. Kroeber (1989), culture is "a customary way of acting, feeling and thinking chosen by society from an infinite number and variety of possible ways of being". Hofstede defines culture as "the collective programming of minds that distinguishes members of one group or category from members of another group or category" (Hofstede 2007, p. 17). When it comes to communicating culture, he uses the onion analogy, where its component layers are (from the middle out):

- values - invisible at first glance, often hidden - determine behavior and decisions,
- rituals - activities perceived by the community as necessary in official and private situations, such as meals, greetings, celebrations, religious ceremonies,
- heroes - characters, mythical, historical and present, important for the community,
- symbols - words, gestures, images, objects, colors - can be unique and only understandable to members of a given community/population, but also common to a wider group, even to the whole of humanity.

External layers (rituals, heroes and symbols) are interpreted in the same way and are known to members of the community. Although they are visible to the outside observer, they may not be understood by him (Hofstede, 2000, pp. 43-44).

Institutional components of culture include social and religious structures, intellectual and artistic expressions and political life (Duliniec 2007).

Many academics have been involved in investigating national cultures and determining their dimensions. A summary of what the author considers the most influential theories is presented in Table 1.

The theories listed in the table are based on the belief that there are differences between national cultures. Both in the literature (Friedman, 2006) and in everyday opinions, one can notice more and more frequent voices about the ongoing unification of cultures and the disappearance of contrasts. In many places around the world it is possible to observe how some cultural patterns spread out, norms and preferences permeate each other, and behavior becomes more universal. This phenomenon is called cultural diffusion. This is due to a strong spread of a given culture and its elements being taken over by others. Diffusion is driven by factors such as globalization, access to international and global media, spread of fashion (mu-

sic, pop culture, art, clothing), development of international tourism and a growing knowledge of English (Krawuczka, 2014; Duliniec, 2007). Apart from diffusion, the phenomenon of convergence may also influence the unification of cultures. It consists in the development of similar cultural patterns as a result of similar conditions, e.g. climatic, geographical or even legal. For example, common environmental regulations imposed in the European Union countries may have an impact on shaping similar environmental behaviors and attitudes.

Table 1. Cultural dimentions models

No.	Author	Cultural dimentions
1.	Hall (1959)	context (high / low) attitude to time (monochronism / polychronism) personal / social, public space
2.	Kluckhohn i Strodtbeck (1961)	attitude to the environment, attitude to time, the essence of human nature, attitude to action, stressing responsibility, understanding of space
3.	Hofstede, Bond (1983; 1988)	power distance (large / small) collectivism - individualism masculinity - femininity uncertainty avoidance (strong / weak) orientation (long / short-term)
4.	Gesteland (2000)	deal-focused - relationship-focused hierarchical (formal) – egalitarian (informal) time and scheduling expressive - reserved
5.	Trompenaars, Hampden-Turner (2002)	universalism - particularism individualism - communitarianism specific - diffuse reserved - emotional achievement - ascription sequential time - synchronous time internal direction - external direction
6.	Project GLOBE (House, Hanges, Javidan, Dorfman i Gupta, 2004) (Hofstede, Dimensionalizing Cultures: The Hofstede Model in Context, 2011)(2004)	power distance uncertainty avoidance humane orientation collectivism i: (institutional) collectivism ii: (in-group) assertiveness gender egalitarianism results (or task) orientation future orientation: performance orientation
7.	Varner, Beamer, (2010)	way of thinking and organizing knowledge attitude to human activity and results perception of the universe place and role of an individual in society way of organizing the society

Source: Adapted from Danik, Duliniec (2014), Hills (2002), Simpson (2012).

Duliniec (2007) notes that, from the perspective of an international enterprise, cultural factors, in contrast to economic and technological ones, have been the slowest to unify. Ethnocentrism (belief in the superiority of one's own culture, one's own products, one's own experiences) and nationalism may be limiting factors in the process of cultural unification. Religious considerations also continue to have a very strong impact. Bartosik-Purgat (2011) notes that the homogenization of culture takes place only in superficial layers, but deeper values of a national culture remain largely unchanged..

CONCEPTS OF CULTURAL DIMENSIONS

The concepts presented in Table 2 allow for operationalization and better understanding of the nature of differences in national cultures and classification of countries into categories according to the dimensions of cultures. The indicated taxonomies do not constitute separate sets, but often overlap, permeate and supplement each other. Therefore, researchers usually choose to work with only one of the classifications or combine non-contradictory elements from distinct taxonomies into their own system. The most widely recognized and used in research is the classification by Hofstede. In Google Scholar, the keyword "Hofstede dimensions" gives about 100,000 entries.

Various forms of the concept of cultural dimensions have been employed in research on cultural differences affecting the use of media and Internet tools, which will be discussed in section 4. Each model of cultural dimensions from Table 1 is briefly presented next.

Cultural dimensions – Hall

Hall (1978), analyzing the approach to time, introduced the concept of monochronicity to describe the cultures whose members are characterized by linearity. At any given moment, they focus only on one task and only after its completion they move on to the next one. Such an approach is often represented by residents of northern countries, e.g. Scandinavians. In contrast, there is a tendency for polychthronism, or performing many tasks simultaneously and to switch smoothly between them, often without completing the current task (e.g. Spain and Italy). Hall also dealt with the issue of space by defining distances (spaces) which are accepted in different situations. In some countries, smaller physical distances are often accepted (e.g. Japan, India), while in others people need more physical space to feel comfortable (US, Western Europe). This is reflected in gestures of greeting, tendency to hug and cuddle, but also in the need to have larger houses, cars, offices, etc. These differences may be caused by demographic factors, e.g. population size and generally available living space. The need for greater distance is also related to a tendency to establish boundaries of one's own territory and a greater concern for property and security. In countries with lower territoriality (i.e. lower need for space), due to smaller attachment to property, the feeling of threat from theft is lower. This may be driven by historical facts - in countries with a higher territoriality index, wars have often been fought in the past, often changing state borders.

Based on many distinct cultural dimensions or factors Hall (1959) developed what could be considered the meta-dimension of context. Accordingly, he divided national cultures into high and low context groups.

Table 2. High and low-context cultures

Cultural factors/ dimensions	Low-context cultures	High-context cultures
Essential values and attitudes	Independence and a sense of influence on one's own fate, openness over conflicts, egalitarianism, challenge towards power,	Social position and status are very important, hierarchy and respect for authorities and superiors, harmony and consensus, different gender roles
Negotiations, discussions and business practices	Focus on quick and efficient handling of matters, social connections of little importance, achievements are rewarded and mistakes are tolerated, rivalry is accepted	Long-lasting, celebrated negotiations, parties need to get to know each other, high value of personal contacts, seniority and experience is rewarded, competition is not appreciated, responsibility for mistakes is assumed
Communication	Messages are clear, precise and unambiguous, usually leaving little margin for interpretation	Messages are full of ambiguities; the form of expression is courteous, but cautious, the main message is usually hidden
Approach to time	Linearity: one thing at a time, important punctuality	"There is time for everything", low punctuality and high flexibility
Approach to cooperation	Preference to work individually, individualism	Preference to cooperate, collectivism
Meals	Meals are eaten quickly and eating is often considered a necessity.	Meals are a social event and an opportunity to get to know each other better.
Meeting people and business partners	Relationships are established quickly, they are superficial but to-the-point, less formalization	Ritualization of interpersonal relations, getting to know one's business partner takes a long time, but it is much deeper, though formalized Close familiarity with a partner facilitates cooperation, many issues become obvious and don't need explanations
Arrangements and agreements	Binding contracts and agreements are made in writing, oral agreements are usually not sufficient	Agreements are oral rather than written, and a written contract does not necessarily mean that negotiations are closed and that there is a willingness to implement the negotiated arrangement.
Personal space	Usually longer distance from other people, informal handshakes,	Short distance to others, touching, hugging, bowing, handshaking and hugging,
Attitude towards the environment	Insignificant environment and context, ignoring non-verbal behavior.	Importance attached to environment, context of the situation, allusions or veiled messages, and gestures
Attitude towards age	Youth is valued	Respect for the elderly
Countries	USA, Western Europe, Northern Europe	Japan, China, Arab countries

Source: own elaboration based on Hall (1978), Hall (1959), Simpson (2012); Duliniec (2007).

Cultural dimensions – Kulckhohn and Strodbeck

One of cultural dimensions investigated by Kulckhohn and Strodbeck is the attitude towards the environment. In some societies (e.g. cultures originating from Judeo-

Christianism) there is a belief that man dominates over nature and all his activities aim at its ordering. The opposite attitude is typical for the peoples of the Far East, who give the superior role to nature and destiny. Human life is to a large extent subordinate to external factors and one can have little influence on one's fate. A middle-of-the-road attitude shows a desire for harmony with nature (Scandinavian countries).

Unlike Hall, who distinguished between polychronicity and monochronicity, Kluckhohn and Strodtbeck tend to focus on the past, present or future. These attitudes are best illustrated by the planning approach and the tendency to punctuality and scheduling. In Western cultures (concentration on the present or future) a lot of attention is usually paid to time and punctuality. The future is not known, so you can influence it. The representatives of societies that are focused on the past are inhabitants of Central Africa, where decisions are made with consideration of previous experiences, often those of others, which are part of tradition.

The approach to human nature has identified cultures in which people are assumed to be bad and dishonest, and those in which people are considered good and sincere. In the first case, the tendency for autocratic governance prevails. The second is dominated by a more democratic approach. One can also distinguish mixed cultures, where it is assumed that people can be both good and bad and they can change their attitudes under the influence of other people or situations. The criterion concerning the attitude to action allowed to distinguish cultures focused on action, existence and development (Hills, 2002). Communities focused on action and achievements find external motivation in their surroundings, its members are willing to work hard to achieve their goals and expect an appreciation of others (Anglo-Saxon cultures).

For groups focused on existence, it is most important to realize one's own pleasures. The opinion of others is of little importance, a hedonistic attitude prevails (Latin America, some African countries). Many actions are taken under the influence of emotions. The focus on development and control is manifested in a particular focus on pragmatism and rational action. The main motive is personal development and self-fulfillment.

In social relations, attitude to responsibility manifests itself as a hierarchical, collectivist or individualistic approach. Hierarchical cultures (e.g. France) are characterized by an importance attributed to a place and position in society, group or community. Decisions should be taken by those at the top of the hierarchy. In a collective approach, the most important thing is cooperation and harmony within the group. All members of the group shall be involved in decision-making. Collectivism is a common attitude in developing countries such as Guatemala, Colombia, Pakistan and Ecuador. Individualistic cultures (e.g. Anglo-Saxon, Scandinavian) are characterized by the belief in the importance of the individual, whose traits and achievements are the most important.

Cultural dimensions – Hofstede

Hofstede conducting a behavior study at the IBM corporation initially identified four dimensions of culture (Hofstede, 1983):

- individualism - collectivism
- power distance
- uncertainty avoidance
- masculinity - femininity

As a result of further research (Hofstede and Bond, 1988), another dimension was added: long-term orientation - short-term orientation.

Hofstede states that in individualistic societies, individuals are given great freedom to decide about themselves, but at the same time they should take care of their needs by themselves. The ties between individuals are relatively loose. In individualistic cultures, management by objectives is effective. The employee is left with the freedom choosing the way of attaining the objective, as well as the freedom to divide time between work and rest, and the result is measured in relation to the achieved outcome. Individualistic cultures can be found in the USA, Scandinavian countries, the Netherlands, but also in Italy.

In collectivist countries, the ability to cooperate and collaborate in a group is considered most desirable. Collectivist cultures are represented by Latin America, Korea, Thailand, Malaysia, China, Central and Eastern European countries, Portugal and Greece.

Power distance is interpreted by Hofstede (2000) as the extent to which less powerful members of a culture accept inequality and hierarchy in society and organizations. One external manifestation of a high level of power distance is respect shown to supervisors and those performing higher-level functions, as well as the importance attached to university degrees, titles and positions. Examples of countries classified as long power distance cultures are Malaysia, Slovakia, Guatemala, Panama, the Philippines, Russia, Arab countries, India, China, and Poland. Countries with a short power distance include New Zealand, Australia, Scandinavia and Israel.

Uncertainty avoidance should not be confused with risk avoidance (Hofstede, 2011), uncertainty is vague and defies calculation, while risk is quantifiable and, thus, can be considered more consciously. In Hofstede's framework, uncertainty avoidance is defined as a society's tolerance for ambiguity; when uncertainty avoidance is high, a culture relies heavily on stiff codes of behavior, laws and guidelines. Scoring high on this dimension are Greece, Portugal, Guatemala, Uruguay, Belgium, Russia, Poland and Japan. Countries such as Singapore, Jamaica, Denmark, Sweden, Hong Kong, Vietnam, China, Ireland and the UK have low uncertainty avoidance indices.

The dimension of masculinity and femininity in national cultures is related to the division of societies into those where a clear distinction is identified and adopted between gender roles and those where both women and men can perform the same roles. In highly male-dominated cultures, communities are characterized by high competition, assertiveness, materialism, striving for power and ambition (Ireland, Great Britain, South Africa, the USA, Australia, Slovakia, Hungary, Austria, Italy, Germany, Poland, Japan, China, the Philippines). In female-dominated cultures, there is a tendency to equalize the roles of both genders. Both women and men can perform similar professional and social functions (Sweden, Norway, Denmark, Portugal, Spain, France, Latvia, Slovenia, Lithuania, Estonia, Thailand, South Korea, Vietnam) (Hofstede, 2011).

Short- and long-term orientation indicate differences in perceptions of the future and in the way of defining personal goals and benefits in future periods. In cultures with a long-term orientation, planning, adaptation and prevention are very important characteristics. They are manifested, among other things, in savings, rational resource management, but also in persistence, systematism and pragmatism (Japan, South Korea, China, Ukraine, Germany, Estonia, Belgium, Lithuania, Russia). Cultures focused on the present and the past attach importance to tradition, patriotism and tend to be more

fundamentalist. Rapid results and gratifications are expected (Ghana, Egypt, Nigeria, Colombia, Iran, Morocco, Zimbabwe, Venezuela, Georgia, Finland, Israel and Poland).

Cultural dimensions – Gesteland

Analysis of Gesteland's cultural dimensions brings to mind many associations with the previously discussed high and low-context cultures. For example, partner cultures, just like high context cultures, are relationship-oriented. Great importance is attached to the way that relations are maintained. In contrast, pro-transactional cultures are oriented at achieving predefined goals. In negotiations, representatives of this type of culture in order to maximize their outcome can behave in that way that may be perceived as cold, self-confident or even aggressive.

In non-ceremonial cultures, hierarchy, conventions and rituals are of little importance. In contrast, casual behavior and lack of respect for hierarchies can be considered insulting in ceremonial cultures.

Expressiveness and restraint can describe both verbal and non-verbal ways of communication. Restrained cultures are characterized by a greater distance, avoidance of eye contact, sparse gesticulation and usually a quieter way of speaking. The expressiveness often found in southern countries is manifested in a loud, sometimes even noisy way of talking, with emphatic gesticulation and very intense facial expressions.

Cultural dimensions - Trompenaars, Hampden-Turner

Trompenaars and Hampden-Turner conducted questionnaire surveys with managers in the UK, France, Germany, the Netherlands, Sweden, the United States and Japan. They analyzed cultures using a seven-part model of dimensions of cultures (Trompenaars and Hampden-Turner, 2002) (see Tab. 2).

Many dimensions that they used mirror earlier research and models, such as individualism-collectivism, sequencing-synchronism (cf. polychronism - monochronism). The interpretation of internal and external control is similar to that of the Kluckhohn-Strodtbeck model. In internal-control cultures, the prevailing belief is that the human being decides his/her own fate, and the environment - although important - does not exert a decisive influence on the actions of the individual. In external-control cultures everything depends on the environment, force majeure, and surroundings.

Equality and hierarchy are dimensions close to power distance levels described in the Hofstede framework (Simson, 2012).

In cultures with a high level of universalism, people attach great importance to rights, principles, values and responsibilities. Relationship development is also subordinated to this. Cultures with high degrees of particularism demonstrate the belief that circumstances and relationships dictate the rules of behavior. Attitudes, views and actions may be changed according to the circumstances and needs of the current situation.

In societies that are individualized, people separate work and personal life. Relations are considered to have little impact on work performance, and although they should be good, their absence does not constitute an obstacle to cooperation. Cultures with a holistic approach see an overlap between work and personal life. They believe that good relationships are essential to achieve business goals and that relationships with others will be the same, whether at work or in social situations. Hence, people spend their time with co-workers and customers outside working hours (Trompenaars and Hanodeb-Turner, 1997).

Achievement-aspiration dimension is similar to the one defined in the Kluckhohn and Strodtbeck concepts as an attitude to action. Achievement societies believe that you are what you are doing, and that is a source of self-esteem. These cultures value productivity first and foremost. Everybody, no matter who they are, can achieve success. Where an aspiration orientation dominates, people believe that an individual should be valued for who he or she is. Status, title and position are important, and societal roles determine behavior.

Cultural dimensions - Project GLOBE

The GLOBE project is a study that extended Hofstede's cultural dimensions to the following nine categories (Mayfield and Mayfield, 2012), (Komor, 2011), (Minkov and Blagoev, 2012) (Minkov and Blagoev, 2012):

- gender egalitarianism - to what extent gender equality is supported
- assertiveness - a way of articulating needs and opinions, both in relations with individuals and in relation to society; the degree of being confrontational;
- power distance - interpreted similarly to the Hofstede model;
- uncertainty avoidance - ways of avoiding uncertainty - regulations, procedures, directives, formal structures, etc.;
- group collectivism - loyalty to a family and friends and an employer or a direct superior, mutual support in need;
- institutional collectivism - or subordination to societal institutions (in which the government can potentially offer economic incentives, social support), assessment of the division of common resources,
- humane orientation - the extent to which the state awards individuals for altruistic behavior,
- results (or task) orientation - the degree to which society values the efforts and results of an individual's work.
- future orientation - focus on planning, creating scenarios for the future, today's activities subordinated to the future.

The GLOBE researchers focused on cultural differences, but disregarding administrative boundaries and country borders. They examined, inter alia, regional and transnational diversity. In some countries they have identified several sub-cultures, e.g. in Germany they found dissimilarities between East and West Germany, in South Africa they distinguished between white and indigenous societies, in Switzerland they identified French-speaking and German-speaking communities (Komor, 2011).

Most of the classification schemes reviewed in this manuscript centered on the concept of differences between national cultures. The assumptions of the GLOBE project enhanced that approach by searching for similarities. Multinational corporations and multinational entrepreneurs may find it less risky and more cost-effective to extend their activities to more similar cultures than those that are clearly different (Gupta et al., 2002). Based on a study carried out in 61 countries and taking into account factors such as common language, geographical location, religion and historical background, the GLOBE researchers created the list of 10 cultural clusters (Gupta et al., 2002).

Table 3. Cultural clusters in Project GLOBE

Cluster	Countries
Anglo Cultures	England, Australia, South Africa (White Sample), Canada, New Zealand, Ireland, USA
Latin Europe	Israel, Italy, Portugal, Spain, France, Switzerland (French Speaking)
Nordic Europe	Finland, Sweden, Denmark
Germanic Europe	Austria, Switzerland, The Netherlands, Germany
Eastern Europe	Hungary, Russia, Kazakhstan, Albania, Poland, Greece, Slovenia
Latin America	Costa Rica, Venezuela, Ecuador, Mexico, El Salvador, Colombia, Guatemala, Bolivia, Brazil, Argentina
Sub-Sahara Africa	Namibia, Zambia, Zimbabwe, South Africa (Black Sample), Nigeria
Arab Cultures	Qatar, Marocco, Turkey, Egypt, Kuwait
Southern Asia	India, Indonesia, Philippines, Malaysia, Thailand, Iran
Confucian Asia	Taiwan, Singapore, Hong Kong, South Korea, China, Japan

Source: (Gupta et al., 2002).

Cultural dimensions - Varner, Beamer

Varner and Beamer (2010) believe that to understand outer layers of culture, it is necessary to analyze deeper layers that define them. In their research, they distinguished 5 dimensions of culture (Simpson, 2012):

- the way of thinking and organizing knowledge - where knowledge comes from (science and theory or the inside of a person), how it is acquired, the linear way of thinking (causation) or the conviction of dualism of all phenomena and elements that complement each other;
- attitude to human activity and achievement of results - assumptions similar to the dimension of relation to action, environment and time in the Kluckhohn and F. Strodtbeck models and to uncertainty avoidance in the Hofstede model;
- perception of the universe – man’s place in the universe, the meaning of God or a higher being, perception of time and its measurement, approach to change (as a positive or negative element), attitude to nature, perceiving death as the end or beginning of life;
- place and role of the individual in society – prioritizing the individual or the group, attitude to age, attitude to gender differences, attitude to obligations;
- the way of organizing the society - the nature and time of connecting the individual with the group, building relationships within the group, showing emotions or restraint, formal and informal behavior in the group, relationship between work and life, designing organizational structures (vertically or horizontally), access to power and people with a high social status, arousing feelings of guilt and shame or striving to preserve the face.

IMPACT OF CULTURAL FACTORS ON CONSUMER BEHAVIOR ON THE INTERNET AND DESIGNING WEB-PAGES

Consumer behavior in the Internet is a common topic in economic science and management research. Cheung et al. (2005) reviewed the theory and results of empirical research published between 1994 and 2002. They collated 355 articles which were published in scientific journals. Increasing globalization, competition and the development of Internet technologies prompts a growing interest in the issue of online behavior. The

keyword "consumer behavior on the Internet" in Google Scholar for the years 2002-2017 gives about 1,210,000 results (01.2018).

One of the issues often discussed is the geographical diversity of online shopping. According to the latest data, the average annual number of online purchases per person in 2017 in different regions of the world was: (The truth about online consumers. 2017 Global Online Consumer Report, 2017):

- 19 - North America;
- 9,2 - Latin America;
- 18,4 - Western Europe;
- 11,9 - Eastern Europe and Russia;
- 16,1 - Australia and New Zealand;
- 11 - Africa and the Middle East;
- 22,1 – Asia.

As the above list shows, most purchases are made via the Internet by residents of Asia, and the least by those of Latin America. Many times, the electronic channel is used to purchase goods from foreign countries. 50% of purchases made online in African countries in 2017 concerned foreign goods. The lowest level, i.e. 14%, was observed in North America. European countries are very diversified in this aspect. In Western Europe, the rate was 15%, while in Eastern Europe (including Russia) it was 43%. In other regions, foreign purchases made up 44% of the total purchases of Latin American, 21% Asian, 25% Australian and New Zealand internet users (The truth about online consumers. 2017 Global Online Consumer Report, 2017). The reasons for the high percentage of foreign goods can be associated with seeking of unique or specialized products unavailable or too expensive on the local market. On the other hand, low percentages may be the result of legal barriers to the purchase of foreign goods or high costs of delivery (transport, customs fees, etc.).

The inclination to buy a good from an electronic channel is influenced by many factors, such as the type of product (e.g. basic necessities, luxury products, etc.), customers' familiarity with the product, previous consumer experience, brand perception, etc. Factors not directly related to the product itself include price (which can be increased by additional costs of delivery or insurance), lead time, convenience, comparability of options, additional information (seller advice, other users' recommendations), return and complaint policy, payment method and transaction security.

There are studies whose authors explored the differences in intercultural consumer behavior and attitudes in terms of online activities (cf. Lynch and Beck, 2001; Luna, Peracchio and de Juan, 2002; Cheol and Jun, 2003; Baack and Singh, 2007). Cross-cultural differences include reasons given by consumers from different regions of the world for making online purchases. (see Figure 1).

It seems that in regions where most countries are classified as high context, partner and collectivist cultures (such as Asia), people pay more attention to recommendations on the Internet. Brands are most important in countries with a high uncertainty avoidance rate (Latin America). Countries with high rates of pro-transactionality and individualism are markets where product characteristics play an important role.

Consumers prefer to use and do their shopping on sites specifically designed for their location and local language (Singh and Pereira, 2005). Country-specific online content en-

hances the usability, coverage and interactivity of a site, leading to higher purchasing intentions (Luna, Peracchio and de Juan, 2002; Junglas and Watson 2004; Singh et al. 2006).

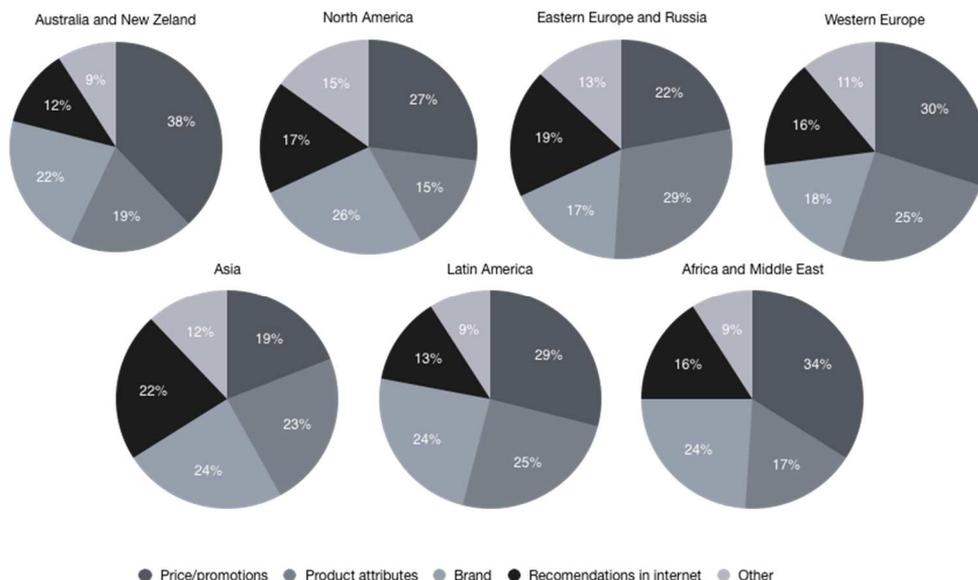


Figure 1. Factors affecting online shopping by regions

Source: adapted from (The truth about online consumers. 2017 Global Online Consumer Report, 2017).

Cultural factors are identified as one of valid considerations when creating international websites (Steenkamp and Geyskens, 2006; Sia et al, 2009). Models of cultural dimensions have been used by many researchers to analyze the impact of cultures on the creation of websites. The most commonly used models are those by Hofstede and Hall. The literature also contains research based on the frameworks of Gesteland, Trompenaars and Hampden-Turner, and the GLOBE Project. The author of this paper has not identified any research based explicitly on Kluckhohn and Strodtbeck's model, as well as Varner and Beamer's. These concepts are mentioned only in literature studies and pointed out as alternative approaches and operationalizations.

Table 4. Research on impact of cultural differences on website design

No.	Cultural dimension model	Authors	Topic of the study
1.	Hall	(Würtz, 2006)	McDonalds' websites analysis in the context of communication in high and the low-context cultures
2.	Hofstede	(Fletcher, 2006)	Cultural sensitivity is a key factor in communication and should be taken into account in web design; analysis of the website of an Australian university in Chinese, Thai, Vietnamese, Japanese, Indonesian, Spanish and Portuguese.

		(Gong, Stump i Li, 2014)	The role and impact of national culture on the use of social networking sites in different countries, while controlling for socio-economic factors, in particular willingness to work online, educational levels and mobile penetration. The study was based on secondary data from 36 countries.
		(Gorman, 2006)	Analysis of the congruence of web sites with Swedish and Japanese cultural profiles. Demonstration of the utility of the Hofstede model for a more effective website design.
		(Robbins, Charlotte i Stylianou, 2010)	Analysis of changes in the approach to website design between 1998 and 2008 concerning cultural diversity.
		(Kim i Kuljis, 2010)	Comparison of South Korean and British charities' websites. Identification of differences in the design of the websites regarding multimedia usage preferences and the ability of users to enter data.
3.	Gesteland	(Zhu, 2016)	Comparison of American and Chinese corporate websites in terms of content, graphics, layout. Guidelines for web designers.
4.	Trompenaars, Hampden-Turner	(Fletcher, 2006)	Cultural sensitivity is a key factor in communication and should be taken into account if a website is to be an effective tool in intercultural communication. Analysis of an Australian university website in Chinese, Thai, Vietnamese, Japanese, Indonesian, Spanish and Portuguese.
5.	Projekt GLOBE	(Cyr, 2008)	A study conducted in Canada, the United States, India, Germany, Japan, Mexico, Chile and China. Elements of the website (information, content, navigation, aesthetic layer) were analyzed, as well as elements influencing perception of transaction security and trust in websites.
6.	Hall and Hofstede	(Zhao, Massey, Murphy i Fang, 2003)	Analysis of American and Chinese websites for cultural differences. Classification of the websites into neutral, culture-specific and mixed.
		(Kralisch, Eisend i Berendt, 2005)	Impact of cultural dimensions - long-term orientation, avoidance of uncertainty and mono- and polychronizm - on users' behavior. Behavioral data were collected by retrieving navigation steps records in the logbook of the server of a large and multilingual website with visitors from many countries.
		(Calabrese, Capece, Corbo, Ghiron i Mauricci, 2012)	Using the models by Hall and Hofstede, the study determined guidelines for website design in Scandinavian countries and Malaysia.

Source: own elaboration.

To be effective in targeting consumers in different cultural segments, websites should be tailored to specific cultural aspects (not only language) of each location. Localized sites often relate in their appearance, content, layout and navigation to the cultural layers indicated by Hofstede (symbols, rituals, heroes and values - discussed in more detail in section 3) (Würtz, 2006; Fletcher, 2006; Perea, Monsuwé et al., 2004; Cyr, 2008).

Table 5. Recommendations and guidelines for developing websites adapted to cultural clusters

Cluster	Language	Content	Menu and navigation	Engagement and time	Layout and visual layers	Dialog and cooperation
Anglo Cultures	English	<ul style="list-style-type: none"> - Topics and themes reflecting individualism and self-fulfillment, material values - Social class is important, desire for belonging to an exclusive group - web sites for selected few and not for all - Pragmatism: content should be useful above all 	<ul style="list-style-type: none"> - Information set up in a linear order - Links indicating a clear hierarchical structure 	<ul style="list-style-type: none"> - Fluid navigation and access to information is important, - Helpful tools - search boxes, - The website should load quickly and provide smooth transition. 	<ul style="list-style-type: none"> - One well-ordered page to be displayed at one time. - Images are important, but they should have practical purpose 	<ul style="list-style-type: none"> - Networking and exchange of opinions is not the most important; - Tools to present one's own achievements are more pertinent.
Latin Europe	National languages	<ul style="list-style-type: none"> - Topics and themes reflecting individualism and self-fulfillment, material values, - Also, content acknowledging appreciation for family values and being part of the local society. - Content related to national identity - Evoking feelings and emotions 	<ul style="list-style-type: none"> - Freedom of navigation allowing to move easily between different parts of the webpage in a non-linear fashion - Links to different parts of the website 	<ul style="list-style-type: none"> - The time factor is less important; - It is possible to use graphical elements requiring longer loading times 	<ul style="list-style-type: none"> - Many pop-up windows and additional entertaining and functional elements - Visuals are very important - Warm colors preferable 	<ul style="list-style-type: none"> - Comment and discussion opportunities, - Possibilities of networking with like-minded individuals. - Ease of contributing and sharing own content.
Nordic Europe	National languages, English	<ul style="list-style-type: none"> - Topics and themes reflecting individualism and self-fulfillment, material values - Content addressing major social issues, - Gender equality 	<ul style="list-style-type: none"> - Information set up in a linear order - Links indicating a clear hierarchical structure 	<ul style="list-style-type: none"> - Fluid navigation and access to information is important, - Helpful tools - search boxes, - The website should load quickly and provide smooth transition. 	<ul style="list-style-type: none"> - One well-ordered page to be displayed at one time. - Austere elegance, visuals are very important, but they should be used sparingly 	<ul style="list-style-type: none"> - Networking and exchange of opinions is not the most important; - tools to present one's own achievements are more pertinent.

Germanic Europe	German, National languages	<ul style="list-style-type: none"> - Topics and themes reflecting individualism and self-fulfillment, material values - Precise and specific information 	<ul style="list-style-type: none"> - Information set up in a linear order - Links indicating a clear hierarchical structure 	<ul style="list-style-type: none"> - Fluid navigation and access to information is important, - Helpful tools - search boxes, - The website should load quickly and provide smooth transition. 	<ul style="list-style-type: none"> - One well-ordered page to be displayed at one time. - The information layer is more important than the visual one, however, this does not mean that it should be neglected 	<ul style="list-style-type: none"> - Networking and exchange of opinions is not the most important; - tools to present one's own achievements are more pertinent.
Eastern Europe	National languages	<ul style="list-style-type: none"> - Topics and themes reflecting individualism and self-fulfillment, material values, - Also, content acknowledging appreciation for family values and being part of the local society 	<ul style="list-style-type: none"> - Information set up in a linear order - Links indicating a clear hierarchical structure 	<ul style="list-style-type: none"> - Fluid navigation and access to information is important, - Helpful tools - search boxes, The website should load quickly and provide smooth transition. 	<ul style="list-style-type: none"> - One well-ordered page to be displayed at one time. - Visual and information layers are equally relevant 	<ul style="list-style-type: none"> Tools for dialogue as well as for demonstrating achievements
Latin America	Spanish	<ul style="list-style-type: none"> - Topics and themes indicating appreciation for family values and being part of the local society - Evoking feelings and emotions 	<ul style="list-style-type: none"> - Freedom of navigation allowing to move easily between different parts of the webpage in a non-linear fashion - Links to different parts of the website 	<ul style="list-style-type: none"> - The time factor is less important; - It is possible to use graphical elements requiring longer loading times 	<ul style="list-style-type: none"> - Many pop-up windows and additional entertaining and functional elements - Warm colors - Many graphics and pictures 	<ul style="list-style-type: none"> - Comment and discussion opportunities, - Possibilities of networking with like-minded individuals

Arab Cultures	Arabic, English	<ul style="list-style-type: none"> - Topics and themes indicating appreciation for family values and being part of the local society. - References to tradition - Material values. - Content that only loosely relates to the main subject of the website, but provides entertainment and engages the recipient (e.g. games, funny applications) 	<ul style="list-style-type: none"> - Information set up in a linear order - Links indicating a clear hierarchical structure 	<ul style="list-style-type: none"> - Differentiated approach to time, quick access to information is important, but loading of some attractive graphical elements can last longer. 	<ul style="list-style-type: none"> - Many pop-up windows and additional entertaining and functional elements - Highly colorful - Visual layer very important - Photos and images can not only support content, but also be the content 	<ul style="list-style-type: none"> - Comment and discussion opportunities, - Possibilities of networking with like-minded individuals
Southern Asia	National languages, English	<ul style="list-style-type: none"> - Topics and themes indicating appreciation for family values and being part of the local society - Possible religious motives 	<ul style="list-style-type: none"> - Information set up in a linear order - Links indicating a clear hierarchical structure 	<ul style="list-style-type: none"> - The time factor is less important; - It is possible to use graphical elements requiring longer loading times 	<ul style="list-style-type: none"> - Many pop-up windows and additional entertaining and functional elements - Wide range of colors recommended 	<ul style="list-style-type: none"> - Comment and discussion opportunities, - Possibilities of networking with like-minded individuals
Confucian Asia	National languages	<ul style="list-style-type: none"> - Topics and themes indicating appreciation for family values and being part of the local society. - Respect for tradition, - Use of authority figures - Due to a more holistic approach, the content can be very comprehensive and can cover a wide range of topics around the main subject 	<ul style="list-style-type: none"> - Freedom of navigation allowing to move easily between different parts of the webpage in a non-linear fashion - Links to different parts of the website 	<ul style="list-style-type: none"> - The time factor is less important; - It is possible to use graphical elements requiring longer loading times 	<ul style="list-style-type: none"> - Many pop-up windows and additional entertaining and functional elements - Icons, pictures referring to Asian heritage, stylized shapes. 	<ul style="list-style-type: none"> - Comment and discussion opportunities, - Possibilities of networking with like-minded individuals

Source: own elaboration based on the literature review

Culturally adjusted websites can influence the usability of a website, inducing more positive attitudes towards the website and ultimately increase the willingness of consumers to make purchases. On the other hand, a fall in usability caused by cultural incompatibility may have a negative impact on purchase intents (Singh, Fassot, Chao, Hoffman, 2006, Luna, Perraccio, De Juan, 2002).

On the basis of the preceding literature review and own observations, the author assigned to cultural clusters of countries recommendations and guidelines, which can be useful in the process of developing websites. It should be stressed that the list is a simplification and can not account for all local differences that may occur between countries classified into the same clusters.

It is clear that representatives of different cultures exhibit different perceptions of websites and their various design aspects. The above table refers only to what the author views as key considerations in localizing websites. A very important element of a website, apart from content and navigation, is its aesthetics and visual appeal, especially colors and symbols. In this context, it is important to be mindful of signs and images that are negatively perceived in some cultures, such as the number 4 associated with bad luck in China, which is neutral in European countries. Another example is the swastika perceived as a symbol of Nazism in the West but in Asia it tends to be associated with happiness and prosperity.

CONCLUSIONS

In the paper, cultural factors were reviewed as one of key elements of the environment of an enterprise operating on international markets. The extant literature indicates that cultural differences have a significant impact on the way consumers use websites. It should be stressed that the 21st century is a time of turbulent developments and rapid technological progress. This has a critical bearing on the availability of goods and services, but also on access to information. Reduction of barriers to travel between countries and continents significantly affects perception and experience of different cultures. It increases openness and mutual understanding of existing differences, both in terms of private life and business activity. The Internet, treated as one of important drivers of globalization, is also not free from cultural diversity. Being aware of this, entrepreneurs and managers who use Internet tools on international markets should choose between localization and standardization of their web presence, carefully weighting up costs and benefits of both approaches on a case-by-case basis. They should factor in the specificity of their product, disposable resources, attributes of the consumer groups and knowledge about cultural dimensions in the target country. The guidelines for designing websites presented in the article have been developed through analysis of available secondary data, such as published research reports and scholarly papers. Further steps in the research process could involve empirical verification of the findings as well as extending and deepening of described cultural models.

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The Fair Trade movement and the countries of the Visegrad Group (V4)

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Abstract

The processes of globalization have divided the world into two parts: rich countries of the North and the poor South. One of the methods of measurement of social and economic development levels of countries is HDI, which was developed by the United Nations. The countries of the Visegrad Group include economically developed countries characterized by a high standard of living. The objectives of this study are: analysis of the Fair Trade phenomenon on a global scale, in the V4 countries, comparison with selected European Union countries and an attempt to develop recommendations for the Visegrad Group countries in the development of Fair Trade. We can distinguish three basic concepts of Fair Trade: an alternative movement, the liberalization of the access to the markets of rich countries and buying products from producers in poor countries on terms that are more favorable than free-market terms, and the marketing of those products in developed countries. A long-term sustainable development, building competitive advantage inscribed in the process of social dialogue are becoming the purpose of the twenty-first century business. The Fair Trade movement is one of the components of the discussed processes. The development of cooperation of the V4 countries in the mentioned area can result in finding a solution to problems connected with illegal labor migration which is taking place increasingly in the EU.

Keywords: Fair trade, international trade, Visegrad Group, exporting

JEL codes: F13

INTRODUCTION

The globalization processes of business activity and the liberalization of trade to the international scale lead to the division of the world population into two parts: countries of the rich North and the poor South. In the conditions of internationalization we can observe alarming socio-cultural, demographic and civilization phenomena, including the division of the world population due to the income obtained and the standard of living. Unequal economic, technological and developmental potentials of the aforementioned two parts of the world bring about the growth of inequality and disproportions to the global scale. In recent years we can observe the development of the migrant crisis in the Old Continent countries. According to the data of the Council of the European Union, in the years 2015-2017 there was an influx of over 1.6 million refugees into the EU countries, and from January to May 2018 of over 41 thousand¹. In majority, those were refugees from the areas in warfare in the Near East, in Asia, or North Africa. However, a definitely higher level of migrant movements - especially illegal ones - may take place in the situation of the deterioration of the living conditions of millions of people living in the countries of so-called poor South. Those will not be migrations for touristic reasons, to avoid political persecution, related to religious conflicts, or escaping from the areas of military conflicts. It may be a wave of migrations connected with desperate attempts to search for a better and safer, in material terms, living in the countries of so-called rich North.

In the paper of the UN agency (UNDP - United Nations Development Programme) "Human Development Report 2016", the authors write that "Global institutional reforms and a fairer multilateral system would help attain human development for everyone", and among the actions described which may improve the functioning of societies we can find propositions of a change in the functioning of global markets and their regulation in the area of macroeconomic stability and the introduction of fair trade principles. The international agenda should be established to set rules to expand trade in goods, services and knowledge to favor human development and the United Nations Sustainable Development Goals². In addition, the Report emphasizes the implementation of the just migration system, global tax coordination and sustainable global economy³. It is a challenge facing economically developed countries, and this group includes the Visegrad Group countries (V4), characterized by high standard of living of the population, high position in economic rankings (for example with regard to GDP), and Human Development Index (HDI).

LITERATURE REVIEW

¹ <http://www.consilium.europa.eu/pl/infographics/eastern-and-central-mediterranean-routes-09-2017/>. Accessed 1 June 2018.

² <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>. Accessed 1 June 2018.

³ Human Development for Everyone 2016, p. 29 and the next, <http://hdr.undp.org/en/2016-report>. Accessed 1 June 2018.

The world literature presents numerous studies on Fair Trade. Table 1 shows examples of a synthetic summary of the selected studies results focused on this subject.

Table 1. Summary of some research results focused on FT

Reference	Subject	Conclusions
Nicholls (2002)	Strategic options in fair trade retailing	Provides a definition of fair trade and goes on to set a context for the expansion of the UK market by examining the key drivers behind it, particularly noting the growth of ethical consumerism as a contributory factor. Develops the ethical strategy matrix, outlining the strategic options open to retailers to address this increase in ethical consumerism
Moore (2004)	The fair trade movement: parameters, issues and future research	The defining characteristics of fair trade are covered and adoption of Southern producer perspectives to review the issues of fair trade. An investigation into pricing within the fair trade movement, related research projects, mainstreaming, and impact of fair trade on the Southern producers.
Hira & Ferrie (2006)	Fair trade: three key challenges for reaching the mainstream	Fair trade activities increase awareness and availability of products. The challenges faced by fair trade to reach the mainstream.
Davies (2007)	An industry structure/stakeholder perspective on the growth of the fair trade industry	Investigation of the increased mass-marketing in the fair trade industry. The nature of participants in and industry structure in fair trade.
Reed (2008)	What do corporations have to do with fair trade? positive and normative analysis from a value chain perspective	Corporate participation has the potential to rapidly extend the market for fair trade goods, primary concern for the plight of small producers and goal of developing an alternative approach to trade and development.
Fridell (2009)	The Co-operative and the corporation: competing visions of the future of fair trade	An analysis of the fair trade network in the North through a comparative assessment of two distinctly different fair trade certified roasters: Planet Bean, a worker-owned co-operative in Guelph, Ontario; and Starbucks Coffee Company, the world's largest specialty roaster. The two organizations are assessed on the basis of their distinct visions of the fair trade mission and their understandings of "consumer sovereignty". It is concluded that the objectives of Planet Bean are more compatible with the moral mission of fair trade.
Audebrand & Pauchant (2009)	Can the fair trade movement enrich traditional business ethics? An historical study of its founders in Mexico	Historical study of fair trade movement focuses on the originalities and challenges of the FT movement and its contributions to the current theory and practice in business ethics.
Bezencon & Blili (2009)	Fair trade managerial practices: strategy, organization and engagement	The motivations of distributors of fair trade products and how they organize and communicate fair trade values. Strategies and managerial practices related to fair trade product distribution

Reference	Subject	Conclusions
Ja-strzewska (2012)	Connections between transnational corporations (TNC) and Fair Trade	Bringing TNC into the Fair Trade system is a controversial issue, not always perceived positively. Concept of Fair Trade is aimed against the policies of giant TNC.
Shahzad & Sillanpää (2013)	The role of fair trade in developing corporate social responsibility	Fair trade firms give equal importance to economic, social, and environmental responsibilities. Findings also reveal that suppliers are important stakeholders of the firms. Moreover, it depicts the importance of fair trade in developing CSR for diversified products
Forno & Graziano (2014)	Social movements in the current economic crisis	Description of analytical framework which will combine social movements and political consumerism theories by focusing on two basic dimensions: consumer culture and identity and organizational resources.
Bieler (2015)	The role of TNC in Free Trade and Fair Trade	In the long-term the way production itself is organized, needs to be transformed. This will require completely different trade arrangements, challenging more fundamentally the capitalist social relations of production.
Child (2015)	Comparison of Fair Trade and Socially Responsible Investments	Three hypotheses: the relation motivations hypothesis, the material interests hypothesis, and the organization of credibility hypothesis.
Zysk (2015)	Fair Trade, Corporate Social Responsibility, Socially Responsible Investments and responsible tourism in Visegrad Group (V4)	Developing Fair Trade, Corporate Social Responsibility, Socially Responsible Investments and responsible tourism in Poland, the Czech Republic, Hungary and Slovakia can start a new era in fairer trade on the international level.
Chatzidakis, Kastanakis & Stathopoulou (2016)	Socio-Cognitive Determinants of Consumers' Support for the Fair Trade Movement	The findings suggest that the psychological processes underlying fair-trade consumerism are inherently more complex than assumed in previous research. For example, subjective feelings of internal ethics seem to be more important than rational considerations encapsulated in measures of attitudes and subjective norms.
Mora-včíková & Gregová (2016)	Fair Trade as a tool of Corporate Social Responsibility	Fair Trade connects developed countries and social changes are needed most. This is a manifestation of humanity that helps producers to escape acute poverty and lead dignified lives. Fair trade is becoming a very "hot" topic, not only for businesses but also for consumers, who are trending towards buying Fair Trade products.
Zysk (2017)	Trends in the area of responsibility and justice in the activities of enterprises: implications for the V4 countries	Developing social responsibility, responsible investment and promoting the fair trade movement in V4 countries can contribute to the initiation of changes to the rules governing the world today and starting a new era in fairer trade on the international level.
Burnett (2017)	New Perspectives on the Fair Trade and Food Sovereignty Movement Strategies to Challenge International Trade Governance	Both movements' strategies are necessary to changing the international agricultural trade regime, and neither alone is sufficient. Problematicize a tendency to analyze movements that treat their strategies and activities in isolation of broader contributions to common problems. This is matters for academic analysis of these and other movements moving forward

Source: own study.

MATERIAL AND METHODS

In the face of the processes, tensions and threats in the global economy mentioned in the Introduction, more and more often ideas of responsibility and justice occur, particularly in the international context. The aims of this paper are as follows: analysis of the Trade Fair phenomenon in the global scale, in the V4 countries, comparison with selected European Union countries and an attempt to develop recommendations for the Visegrad Group countries in terms of the development of Fair Trade. Also in the area of Fair Trade (with growing turnover year after year) a new idea should be proposed: foreign trade based on responsibility "towards others" and "for others" – Fair Trade 3.0 – it will be proposed in the part concerning recommendations. The research methods applied in the article are: studying the literature of the subject, analysis of source texts and the descriptive method. Available statistical data (annual reports) of organizations which deal with the above subjects were used. In addition, to acquire relevant data, the author of the paper established cooperation with entities operating in Fair Trade in the analyzed Visegrad Group countries - Fairtrade Česko a Slovensko, Hungarian Tudatos Vásárlók Egyesülete (Association of Conscious Consumers) and Fundacja „Koalicja Sprawiedliwego Handlu” – Fairtrade Polska (Foundation of the “Fair Trade Coalition” – Fairtrade Polska, KSH).

THE ESSENCE OF THE PHENOMENON AND STANDARDS OF FAIR TRADE

The evolution of the fair trade" phenomenon" has been observed for more than fifty years. We can distinguish three basic approaches to the Fair Trade problems, which are related to the sales models of products manufactured by farmers from the poor South (Table 1).

Table 2. Fair Trade problems – characteristics

Perspective	Description/features
alternative movement – opposition to globalization	<ul style="list-style-type: none"> - alternative trade system, operating in parallel to the existing one - objective: improvement of living conditions of the poorest manufacturers from the underdeveloped South - the system of return of the largest possible part of the final price on the sales of goods to producers - establishing minimum criteria concerning social and environmental standards for international commodity trading
departure from commodification	<ul style="list-style-type: none"> - decommodification, that is an individual becoming independent from free market - creating bonds (relationships) between the commodity manufacturer and the buyer - departure from impersonal nature of the market and implementation of values related to the solidarity principles and actions in the community (co-operatives of manufacturers) - allocating so-called "social premiums" for community purposes (schools, drinking water intakes, hospitals)
making markets of rich countries available for	<ul style="list-style-type: none"> - model of benefits intended for a dedicated group of producers - access to international markets upon fulfilling adequate conditions

certified products coming from maker communities in underdeveloped countries	(certificates) - institutionalization of maker communities and development of marketing competences in order to achieve an advantage on the market - numerous "fair trade" organizations
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Source: Moberg (2010: 7), Grącik-Zajaczkowski (2015: 9), Gille (2011: 463), Zysk (2016: 313).

The Fair Trade phenomenon observed today is a compilation of three approaches characterized above, based on the following fundamental principles⁴:

1. creating developmental opportunities for producers in unfavorable economic situation (strategy of sustainable development and combating poverty),
2. transparency and responsibility (honesty and respect in cooperation with trade partners),
3. building potential (enabling development and independence of producers),
4. promotion of Fair Trade (Fair Trade organizations raise the awareness of the phenomenon, provide information about themselves, products and conditions of production, apply honest advertising and marketing strategies, strive for the highest standards of the quality of products),
5. paying fair price (it is the price agreed via dialogue and co-participation, it covers not only manufacturing costs but also enables production which is socially fair and environmentally friendly; also assistance in the access to funds before harvest or production),
6. gender equality (women's work is adequately evaluated and remunerated),
7. labor conditions (safe and healthy work environment),
8. child labor (participation of children with negative impact on the health, safety, educational requirements and the need for playing, as well as meeting the requirements of the UN convention),
9. environment (proper protection and applying responsible manufacturing methods),
10. trade relationships (Fair Trade organizations conduct trade considering the good of marginalized small producers in the social, economic and environmental dimensions and do not aim at maximization of profits at their costs; long-term relationships based on solidarity, trust and mutual respect).

MODELS OF SALES OF FAIR TRADE PRODUCTS

Fair Trade Products come from manufacturers observing the Fair Trade standards and rules, which are verified within two schemes⁵:

1. by traditional Fair Trade organizations and firms (certified WFTO members - World Fair Trade Organization)⁶, namely the association of small producers of handicraft and small farmers,
2. by maker organizations (small farmers and other small producers), as well as firms (plantations or production plants employing hired workforce), which obtained the

⁴ Cf.: Standardy Sprawiedliwego Handlu, <http://www.sprawiedliwyhandel.pl>. Accessed 1 June 2018.

⁵ Cf.: <http://www.sprawiedliwyhandel.pl/wp-content/uploads/2017/01/Fair-Trade-czyli-Sprawiedliwy-Handel-wyd.-1.pdf>. Accessed 1 June 2018.

⁶ <http://www.wfto.com>. Accessed 1 June 2018.

confirmation of observing the standards in the manufacturing process of a given product, defined by an independent certifying body (such as EFTA - European Fair Trade Association⁷, FLO-I Fairtrade Labelling Organisations International⁸, FLOCERT⁹, Naturland Fair¹⁰, Ecocert Fair Trade¹¹, Bio Equitable¹² or Fair Trade USA¹³).

Fair Trade products are sold and launched to the market by means of two complementary distribution channels. The first one is a traditional path through the integrated supply chain, in which Fair Trade products (handicraft, food, etc.) are made, imported and distributed by Fair Trade certified organizations which participate in the process (WFTO, EFTA members, organizations of domestic World Shops). They combine trade activity with information campaigns. The products find their way to specialized stores, as well as to conventional retailers, e.g. retail chains or healthy food stores. The other method uses the product certification system, in which products meeting international standards are marked for their better recognition by a retail customer. They can be distributed both by the aforementioned certified organizations and by conventional market participants - firms, transnational corporations (e.g. Kraft, Nestle, Procter& Gamble, Sara Lee, McDonald, Starbucks or Chiquita), supermarkets, distribution chains and even gas stations (e.g. Orlen in Poland¹⁴ or ÖMV gas stations in Hungary¹⁵). The flow of raw materials in the supply chain, as well as the composition of raw materials and products are monitored. Organizations or firms themselves (intermediaries, processors, suppliers) are not obliged to observe the Fair Trade rules. In addition to these two models, there are also producers, processors, wholesalers and retailers functioning whose declaration on the functioning within the Fair Trade assumptions is not confirmed by any external organizations or the certification process.

FAIR TRADE PRODUCT TRADING WORLDWIDE

According to the latest report "Creating Innovations, Scaling Up Impact Annual Report 2016-2017", prepared by the International Trade Fair organization, consumers in over 130 economically developed countries spent about EUR 7.9 billion on Fair Trade products (32.000 types of goods)¹⁶. It means an increase in comparison with 2015 by more than 8%, and calculating it differently, about five times more than a decade ago. In 2016, in 75 countries of the world there were already over 1.6 million of small producers and farmers operating in the Fair Trade model, and within so-called social premiums they obtained about 150 mln EUR. As many as 1,411 maker organizations already function worldwide, the majority of which operate in the Latin America countries, in the Caribbean, Africa, Near East

⁷ <http://www.eftafairtrade.org>. Accessed 1 June 2018.

⁸ <http://www.fairtrade.net>. Accessed 1 June 2018.

⁹ <http://www.flocert.net/>. Accessed 1 June 2018.

¹⁰ <http://www.naturland.de/de/naturland/was-wir-tun/naturland-fair.html>. Accessed 1 June 2018.

¹¹ <http://www.ecocert.com/en/fair-trade-certification-program>. Accessed 1 June 2018.

¹² <http://www.biopartenaire.com/>. Accessed 1 June 2018.

¹³ <http://fairtradeusa.org/>. Accessed 1 June 2018.

¹⁴ http://www.orlen.pl/PL/Odpowiedzialny_Biznes/OtoczenieSpoleczne/Strony/FairTrade.aspx. Accessed 1 June 2018.

¹⁵ Conscious Consumer Market Report Hungary 2014-2016, http://tudatosvasarlo.hu/sites/tudatosvasarlo.hu/files/conscious_consumers_market_report_2017_0.pdf. Accessed 1 June 2018.

¹⁶ <http://www.fairtrade.net/annual-reports.html>. Accessed 1 February 2018.

and Asian countries. Every year the sales of Fair Trade products go up. Chart 1 presents changes in the sales of Fair Trade products worldwide in the years 2004-2016.

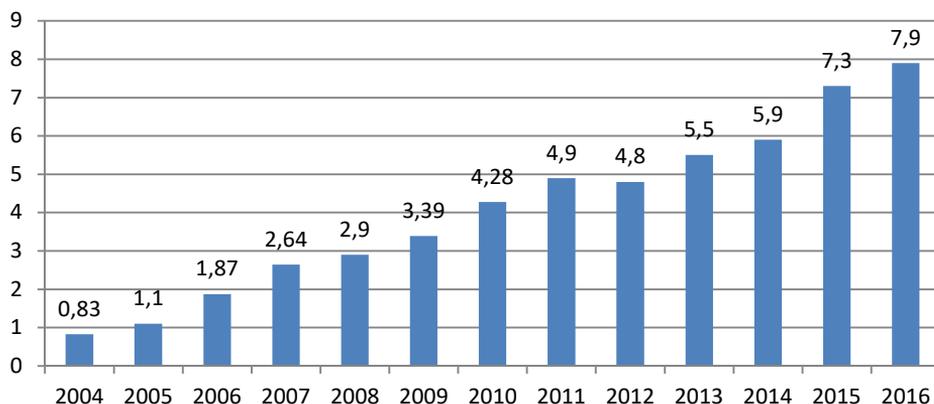


Figure 1. Sales of Fair Trade products worldwide, years 2004-2016, billions of EUR

Source: own computations based on Fairtrade International Annual Reports, years 2003/2004-2016/2017, <http://www.fairtrade.net>. Accessed 1 June 2018.

The mentioned report shows that there was an increase in the sales (in 2016 compared to 2015) of the following main Fair Trade products: bananas – by 5 %, cocoa beans – by 34 %, coffee (green beans) – by 3 %, flowers – by 5 %, cane sugar – by 7 % and tea – by 5 %. It should be added that in 2016 the share of over 1,850 cities in 30 world countries friendly to the Fair Trade idea was marked. In Poland, Poznan is such a city (since 2012¹⁷). It should be added that the mitigation of poverty in the poorest countries requires to raise the level of local workers' income level, and the Fair Trade movement ensures that (Zysk, 2016: 313).

THE VISEGRAD GROUP – CHARACTERISTICS AND INTERNATIONAL POSITION

The Visegrad Group is a political initiative of four countries: Poland, the Czech Republic, Hungary and Slovakia, which in the early 1990s started the transformation process and found themselves in a new geopolitical situation. They broke the political and economic dependence on the Union of Soviet Socialist Republics (the USSR) and were intensely looking for a new identity and the place in the structures of the Western civilization. On 15 February 1991, in Hungarian Visegrad, the Declaration on cooperation in striving for European integration was signed. The document was initialed by Václav Havel, President of the Czech Republic, Lech Walesa, President of the Republic of Poland and Josef Antall, Prime Minister of the Republic of Hungary. After the collapse of Czechoslovakia on 1 January 1993, the Visegrad Triangle changed its name to the Visegrad Group. The idea behind the Group formation was the intensification of cooperation within building democratic state structures and a free market economy, and in the further perspective, the

¹⁷ <http://www.spolecznosci.fairtrade.org.pl/o-nas/kampania-spdsz-w-polsce/>. Accessed 1 February 2018.

participation in the European Integration process. The success of the V4 is primarily the creation in 1992 of the Central European Free Trade Agreement – CEFTA within the Group. Moreover, strategic and geopolitical goals were achieved together, namely the accession of the member states to the Western European NATO and the European Union structures (1999 and 2004). Important elements of the V4 functioning include the cooperation of the V4 ambassadors in Brussels and the creation of the Visegrad Fund awarding grants and scholarships in 2000. The membership in the European Union has enabled to diminish the developmental distance from the Western European countries through the acceleration of economic growth and introducing structural changes in the real and financial sphere, building relatively stable economic and social foundations enabling to survive the latest economic crisis. Joint regional infrastructural and transportation projects are even planned. The implementation of those goals will favor the cohesion of the EU and harmonization of its development level. We can assess that after almost 30 years of the dynamic development, the V4 countries are economically developed, with the market economy functioning and a relatively high position both in economic (Gross Domestic Product) and social development (Human Development Index - HDI) rankings. Table 1 presents the position of the four analyzed countries in terms of the Gross Domestic Product generated in 2017.

Table 1. Gross Domestic Product - position of Poland, Czech Republic, Slovakia and Hungary in the ranking, 2017, mln USD

Ranking	Economy	GDP (millions of USD)
1	United States	19 390 604
2	China	12 237 700
3	Japan	4 872 137
4	Germany	3 677 439
5	United Kingdom	2 622 434
6	India	2 597 491
7	France	2 582 501
8	Brazil	2 055 506
9	Italy	1 934 798
10	Canada	1 653 043
14	Spain	1 311 320
23	Poland	524 510
24	Belgium	492 681
27	Austria	416 595
34	Irelandia	333 731
35	Denmark	324 871
46	Portugal	217 571
47	Czech Republic	215 726
56	Hungary	139 135
64	Slovak Republic	95 769

Source: <https://data.worldbank.org>. Accessed 1 June 2018.

As we can observe above, the United States open the top ten in the ranking (almost 19.4 trillion USD), then China (more than 12.2 trillion USD) and Japan (nearly 4.9 trillion USD). Poland had a high 23rd position with the result of almost 525 billion USD, the

Czech Republic is ranked 47th with the value of over 215 billion USD, Hungary on the 56th position with over 139 billion USD, and Slovakia with the value of over 95 billion USD is ranked 64th. For further comparative analyses concerning the sales of Fair Trade products, the table includes data on GDP of the following countries: Spain, Belgium, Austria, Ireland, Denmark and Portugal. The next table below presents the positions of the four analyzed countries by the Human Development Index (HDI) in 2017.

Table 2. Human Development Index (HDI) - position of Poland, the Czech Republic, Slovakia and Hungary in the ranking, 2017

HDI rank	Country	Human Development Index (HDI)	Life expectancy at birth	Expected years of schooling	Mean years of schooling	Gross National Income (GNI) per capita, USD
1	Norway	0.949	81.7	17.7	12.7	67 614
2	Australia	0.939	82.5	20.4	13.2	42 822
2	Switzerland	0.939	83.1	16.0	13.4	56 364
4	Germany	0.926	81.1	17.1	13.2	45 000
5	Denmark	0.925	80.4	19.2	12.7	44 519
5	Singapore	0.925	83.2	15.4	11.6	78 162
7	Netherlands	0.924	81.7	18.1	11.9	46 326
8	Ireland	0.923	81.1	18.6	12.3	43 798
9	Iceland	0.921	82.7	19.0	12.2	37 065
10	Canada	0.920	82.2	16.3	13.1	42 582
10	United States	0.920	79.2	16.5	13.2	53 245
12	Hong Kong, China (SAR)	0.917	84.2	15.7	11.6	54 265
13	New Zealand	0.915	82.0	19.2	12.5	32 870
14	Sweden	0.913	82.3	16.1	12.3	46 251
15	Liechtenstein	0.912	80.2	14.6	12.4	75 065
16	United Kingdom	0.909	80.8	16.3	13.3	37 931
17	Japan	0.903	83.7	15.3	12.5	37 268
18	Korea (Republic of)	0.901	82.1	16.6	12.2	34 541
19	Israel	0.899	82.6	16.0	12.8	31 215
20	Luxembourg	0.898	81.9	13.9	12.0	62 471
28	Czech Republic	0.878	78.8	16.8	12.3	28 144
36	Poland	0.855	77.6	16.4	11.9	24 117
40	Slovakia	0.845	76.4	15.0	12.2	26 764
43	Hungary	0.836	75.3	15.6	12.0	23 394

Source: <http://hdr.undp.org/en/composite/HDI>. Accessed 1 June 2018.

As we can see in the above table, the ranking is opened by Norway (HDI 0.949), followed by *ex aequo* Australia and Switzerland (HDI 0.939). The high 28th position in this ranking was achieved by the Czech Republic (HDI 0.878), Poland is on the 36th position (HDI 0.855), Slovakia on the 40th (HDI 0.845), and Hungary is ranked 43th (HDI 0.836). To sum up, we can claim that the analyzed countries of the Visegrad Group are ranked relatively high on the list concerning the Human Development Index (HDI), and three studied countries except for Poland - occupy even higher positions than in the GDP list.

FAIR TRADE PRODUCT TRADING IN THE V4 COUNTRIES

In the latest report "Creating Innovations, Scaling Up Impact Annual Report 2016-2017" prepared by the International Trade Fair there are no data for the four Visegrad Group countries. It may result from a relatively low level of the sales of Fair Trade products. The author contacted directly the entities which deal with the problems of Fair Trade in the analyzed Visegrad Group countries - Fairtrade Česko a Slovensko, Hungarian Tudatos Vásárlók Egyesülete¹⁸ (Association of Conscious Consumers) and the foundation „Koalicja Sprawiedliwego Handlu” – Fairtrade Polska. Not all of these organizations have full data concerning the FT product trading, since not all are on the same stage of the development of the activity conducted. For example, the Hungarian organization has only total data for the years 2014 -2016, without a division into individual periods and types of products, and the Polish organization has very detailed information with the division into periods and share of specific products in total sales. In the Czech Republic and Slovakia, there is one organization which has fuller data from the Czech Republic. Table 3 presents the sales of the Fair Trade products in the years 2013-2016 in Poland, in the Czech Republic, in Slovakia and Hungary.

Table 3. The sales of Fair Trade products in the years 2013-2016 in Poland, in the Czech Republic, in Slovakia and Hungary, mln USD

country/year	2013	2014	2015	2016	Total
Poland	4.8	6.4	6.5	8.3	26
Czech Republic	6.6	7.7	7.4	no data	21.7
Slovakia	no data	1.1	1.3	no data	2.4
Hungary	no data	no data	no data	3.3*	3.3*

*data jointly for the years 2014-2016

Source: own study based on information received from - Fairtrade Česko a Slovensko, Hungarian Tudatos Vásárlók Egyesülete (Association of Conscious Consumers) and Fundacja „Koalicja Sprawiedliwego Handlu” – Fairtrade Polska.

As it can be seen in the above Table, the leader in the analyzed period was Poland (26 mln USD), followed by the Czech Republic (21.7 mln USD). The sales of Fair Trade products in Hungary and Slovakia were lower in terms of value (3.3 and 2.4 mln USD), however, as it was already mentioned, the data are incomplete. In order to carry out a deeper comparative analysis, the results of the sales of Fair Trade products in the Visegrad Group countries were compared with a few countries in Europe, which are the European Union members (Table 4).

Table 4. The sales of Fair Trade products in the years 2013-2016 in the V4 countries and selected EU countries, mln USD

Country/FT sales	Sales of Fair Trade products 2016
Denmark	876
Ireland	272
Austria	270
Belgium	134
Spain and Portugal	31.5
Poland	8.3

¹⁸ www.tesztek.tudatosvasarlo.hu, www.fairtrade-cesko-slovensko.cz and www.fairtrade.org.pl. Accessed 1 June 2018.

Czech Republic	7.4*
Hungary	1.1**
Slovakia	1.3*

*data for 2015

**averaged value from 3 years, namely 2014-2016, (3,3/3=1,1).

Source: as in Table 3 and Fairtrade International Annual Report 2016/2017, <https://annualreport16-17.fairtrade.net/en/>. Accessed 1 June 2018.

What can be seen from the data presented in the Table above is that the sales volume of Fair Trade products in the four Visegrad Group countries considerably differs in the achieved value from the results in Denmark (876 mln USD), Ireland, Austria, Belgium, and to a lesser extent they differ from Spain and Portugal (Fair Trade International reports give data jointly from these two countries). To present the described situation more precisely, computations were made, consisting in calculating what percentage of GDP generated in the analyzed countries in 2016 was allocated to the purchase of Fair Trade products (Chart 1).

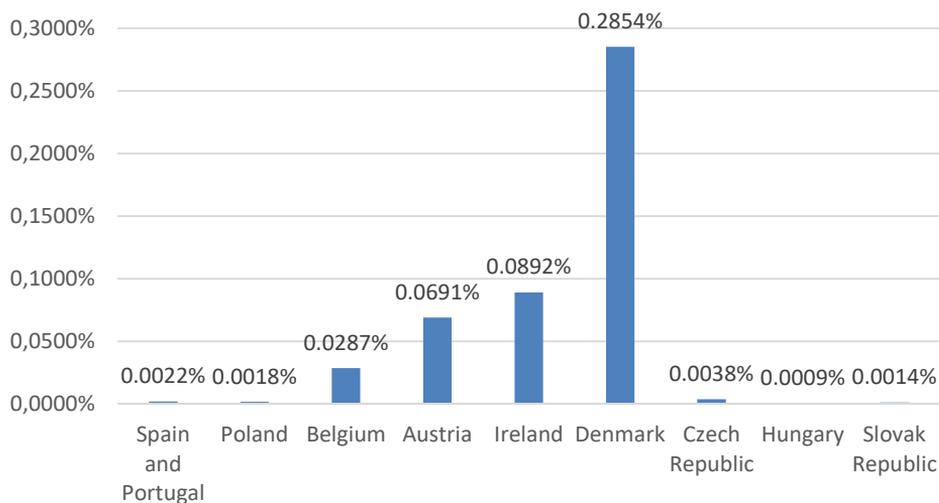


Figure 1. Relation of the sales of FT products to GDP in selected European Union countries and the V4 countries, year 2016.

Source: own calculations based on the data as in Tables 1 and 4.

As we can observe in the Table, by far the highest sales of Fair Trade products among the analyzed countries in comparison with GDP in 2016 was marked for Denmark (0.2854 %), then Ireland (0.0892 %), Austria (0.0691 %) and Belgium (0.0287 %). In total, the Visegrad Group countries achieved a much lower sales level than the above countries: the highest level was achieved by the Czech Republic (0.0038%), then Poland (0.0018 %), Slovakia (0.0014 %) and Hungary (0.0009 %). What is interesting, Spain with Portugal marked a lower result than the Czech Republic, only 0.0022 %. To sum up, we can assess that in spite of relatively high positions of the V4 countries in the GDP and Human Development Index (HDI) rankings, the level of these indicators does not have a significant influence on the

sales of Fair Trade products. It seems that initiatives raising the awareness of citizens as for the income problems of the Global North countries, activities of international and local non-governmental non-profit organizations or social enterprises, as well as educational actions on different education stages, promotions of products among consumers and activeness of local governments on the level of cities are necessary.

RECOMMENDATIONS FOR THE V4 COUNTRIES WITH REGARD TO THE DEVELOPMENT OF FAIR TRADE

To increase the sales of Fair Trade products in the Visegrad Group countries, while planning activities in the economic policy the governments of these states should refer to threats which are generated by the growing problem of labor migration of millions of people living in poor countries of the South. The author of the article proposes to establish cooperation of large urban centers (capitals of individual countries with the largest urban centers in each country) in the V4 Group and the commencement of trading activity with regard to direct import of communal (urban) entities from these cities with local producers of FT goods. In the initial phase of such activity, the import of the most important Fair Trade product, namely popular coffee. If a local community, obviously with the organizational support of public institutions, will be ready to implement so-called Fair Trade 3.0., consumers of the rich North (and the V4 countries are included in this group) would most probably prefer to buy Fair Trade products than accept millions of refugees. Table 5 presents the assumptions of the Fair Trade 3.0 concept proposed by the author of the paper.

Table 5. The evolution of the Fair Trade phenomenon and the 3.0 concept

Fair Trade 1.0	Fair Trade 2.0	Fair Trade 3.0
consumer awareness support for sustainable development solidary social relationship between consumers and producers "Trade, not Aid" model	university project – then business development development of co-operatives international solidarity elimination of intermediaries – direct cooperation with suppliers "firsthand coffee" model higher incomes of small producers	the use of "power of big cities" direct cooperation with producers support of cities for local initiatives (consumer co-operatives) urban store chains elimination of intermediaries organizational, educational and information support higher incomes of small producers - potential prevention against labor migrations

Source: own study.

The operationally proposed model would be based on the use of their demand side by urban centers of the Visegrad Group countries with direct cooperation with FT goods producers. Specialized communal entities, which would cooperate directly with manufacturers and would import goods from economically underdeveloped countries (Zysk 2016: 233-245). Urban centers can also create conditions for local co-operatives established by conscious and socially active consumers, e.g. through tax reliefs or organizational assistance. Moreover, school curricula should stress the issues of social inequalities globally and the role of the Fair Trade movement during weekly form classes, entrepreneurship ethics or economics lessons.

A practical facilitation of the activities described above can be the most important trade agreement, concluded within the World Trade Organization since 1995 (the establishment of the WTO). This is TFA, Trade Facilitation Agreement, that is a trade agreement concerning the reduction of, among others, non-tariff barriers, which became effective as of February 2017¹⁹. The greatest possibility of the reduction of costs related to trade exchange exists for most underdeveloped countries and developing ones. Tedious and costly clearance of goods is particularly painful when dealing with customs formalities, which often doubles the costs of the trade of goods²⁰. The Trade Facilitation Agreement will improve the world trade of goods, reduce bureaucracy, bring about closer cooperation of the customs administration, and in effect transactional costs will be reduced for the Global South countries. Therefore, it may be an opportunity for the development of export of Fair Trade products.

CONCLUSIONS

On 28-29 June 2018, the European Council Summit took place. The most important subject discussed during that meeting was the problem of migration relocation²¹. The leaders agreed that it is a challenge not only for individual member states, but also for the whole Europe. Among conclusions from the summit it was recorded that "a precondition for a functioning EU policy relies on a comprehensive approach to migration which combines more effective control of the EU's external borders, increased external action and the internal aspects. Planned activities are to include, among others, the creation of disembarkation platforms for people rescued during sea operations and returned to North Africa countries, a new model of resettlement of asyants in Europe or financial support for the creation of so-called controlled centers for migrants in willing EU member states. A little earlier, on 3 January 2018, another World Economic Forum in Davos was held²². The official mission is "to improve the state of the world". A lot of important topics were tackled during discussions and panel presentations. However, the subjects of economic inequalities, as well as refugees and migration in the divided world - divided into the countries of the rich North and poor South - prevailed. Yet, during those two events there was no in-depth reflection or asking an important question: what is the source of labor migrations and crises related to refugees? One of the reasons are the deepening economic inequalities and so-called income-scissors, that is the phenomenon of already wealthy societies becoming richer and simultaneous impoverishment of already poor populations, living in underdeveloped countries. Oxfam, an international humanitarian organization, presented a report²³ entitled "Reward Work, not Wealth", which stressed the phenomenon of the dynamics of the rich becoming wealthy and the deepening poverty of those already poor. It also claimed that people who are poorly paid, working in bad conditions often support

¹⁹ On 22 February 2017 the Agreement was ratified by Chad, Jordan, Oman and Rwanda. Therefore, the established upper limit of WTO members, required for its immediate effect, was achieved. Cf.: http://europa.eu/rapid/press-release_IP-17-188_pl.pdf. Accessed 20 June 2018.

²⁰ https://www.oecd.org/trade/WTO-TF-Implementation-Policy-Brief_EN_2015_06.pdf. Accessed 20 June 2018.

²¹ <http://www.consilium.europa.eu/pl/meetings/european-council/2018/06/28-29/-6-27-euco-preview/>. Accessed 20 June 2018.

²² <https://www.weforum.org/events/world-economic-forum-annual-meeting-2018>. Accessed 20 June 2018.

²³ <https://www.oxfam.org/en/research/reward-work-not-wealth>. Accessed 21 June 2018.

super rich corporations, their owners and investors with their effort. The unfair division of the world wealth leads to the increasing phenomena of labor migrations, when people deprived of life chances decide to look for a place for a better living.

Having studied the trade of Fair Trade products in the Visegrad Group countries in this article, in spite of relatively high positions of the V4 countries in the GDP and Human Development Index (HDI) rankings, the results were obtained which indicate that the value of those indices had no significant influence on the sales of Fair Trade products, and the sales level in the analyzed countries considerably differs from other developed European Union countries.

The actions proposed in this paper, consisting in establishing communal entities in the Visegrad Group countries, and then establishing direct trade cooperation with the manufacturers of products imported from the Global South countries anyway (with high margins of transnational corporations) may be a method of achieving higher sales of Fair Trade products in those countries - at least at the level of the European countries presented in the above analyses. The economic history of the world knows four methods of eliminating such differences: military actions - wars, revolutions, epidemics of dangerous diseases to a great scale or a serious disaster. In the current economic situation, serious and growing socio-economic tensions to the scale of the whole population are a justified reason to consider the interest in new possibilities of the functioning of societies of large cities worldwide and base satisfying demand on direct contacts with producers and farmers from countries of the poor South. If we assume that in the predictable future desperate and deprived of civilization perspectives labor migrants will start moving to countries of the rich North in the search for a better future, the problem should be presented in the following way: do citizens of wealthy countries of the rich North prefer to buy Fair Trade products or rather accept millions of labor refugees? The logic of the capitalist economy model is that if no specific actions are taken, we will face further migration conflicts and social tensions. It should be remembered that international trade is the crucial factor of sustainable development, and "sharing" wealth by importing countries may cause the collapse of the phenomenon of illegal labor migration.

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