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Thematic Issue

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Michał Lemański

Nottingham University Business School China, China

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Editorial: Foreign Entrepreneurs in China

This thematic issue attempts to expand scholarly understanding of international entrepreneurship in China, by providing empirical evidence of the current problems key to the success of foreign entrepreneurs in China, and analysing the context of entrepreneurship in that country. The need to understand foreign entrepreneurship in China is both an important and a timely problem, because China is transforming into the world's economic leader, and at the same time the conditions for international entrepreneurs are rapidly changing in the global business environment, especially in the context of emerging economies (Bruton, Ahlstrom, & Obloj, 2008). As such, this issue contributes also to an emerging new scholarly literature aimed at understanding the dynamic nature of international business in emerging economies, which, as observed by Puślecki, Trąpczyński, and Staszków (2016), needs to be revisited by scholars using new approaches, and new empirical evidence.

To date, various aspects of entrepreneurship in China have been a subject of scholarly inquiry. For example, seminal works of Bat Batjargal and his colleagues explored the role and the nature of family ties in Chinese entrepreneurship (Arrengle *et al.*, 2015) and explained rationale behind observed particular behaviours of Chinese entrepreneurs (Batjargal, 2008). However, as noted by Głodowska, Pera, and Wach (2016), differences between institutional arrangements and forces influencing entrepreneurship in different economies, often labelled collectively as 'emerging markets', demand more tailored approaches in scholarly research on those contexts. Hence, this special issue is dedicated to one, albeit most important, emerging economy, namely China. We focus on China because of its relevance to international business, and because inquiries made in such a dynamic context can help develop new theoretical insights. Indeed, since its 'opening' nearly 40 years ago, China has established an environment facilitating entrepreneurship, and attracts businesspeople from literally the whole world. Now, being the world's second largest economy, a member of the World Trade Organization, and an important player in other global and regional economic integration blocks and cooperation agreements, the country not only remains a magnet for foreign business, but also has been developing a large pool of Chinese entrepreneurs and companies who expand abroad (Luo & Lemański, 2016).

During the process of China's impressive economic development, foreign entrepreneurs played an important role contributing to the advancement of technology and management practices in China. Yet, while learning from abroad still plays an important role, the focus has been shifting towards development of Chinese own knowledge and enhancing Chinese innovation (Zhang & van Stel, 2016). Successive 'Five-Year Plans' of China's government, as well as other state policies explicitly focus on the development of Chinese technologies, patents, know-how, and brands. So while historically foreign products enjoyed a reputation of higher value, and foreign firms were preferred by many excellent graduates, the growing

number and advancement of products and services offered by Chinese companies and entrepreneurs, and development of organisational practices in Chinese firms, has been shifting the relationships between foreign and local businesses.

The aim of this thematic issue of Entrepreneurial Business and Economic Review (EBER) is to understand this changing role of foreign entrepreneurs in China, especially in the context of China's institutional framework, and the cultural and economic environment, and the current trends in the foreign direct investments to and from China. We invited empirical and conceptual articles investigating these subjects within the broad theme of international entrepreneurship. While the EBER journal has a strong tradition of publishing high-quality quantitative research, given the novelty and dynamic nature of the subject and that the main theme has been relatively less explored in the literature, we opened up this issue to all research methodologies. We received many interesting and high-quality submissions, yet we had to limit the final selection to only those articles which provided novel and unique contributions with a potential to significantly advance literature on the theme of this special issue, and which fit into the mission of the EBER journal. Therefore, the thematic section contains four thematic papers presented in the following.

In the first thematic article, Kenneth-Southworth, Watters, and Gu map the formal institutional framework for entrepreneurship in China, and explain how both foreign and domestic entrepreneurs are affected. This contribution is unique. It informs international scholars about the role of normative documents in Chinese initiatives to encourage entrepreneurship. The authors argue that because of the strategic goals set in the national economic policy the legal framework is principally targeted at Chinese entrepreneurship, but has also benefited foreign entrepreneurship.

In the second thematic article, Ng and Fu, put under scrutiny factors driving entrepreneurship of foreign women in China. The authors first present a thorough review of literature on female entrepreneurs in developed economies, and then cross-compare the results of that literature review with their own original empirical work conducted in China to outline commonalities and differences between women entrepreneurs in China and in the Western economies.

In the third thematic article, Zhang and Hao present a unique indicator based on the political events methodology to analyse the location choice of Chinese foreign direct investments. Next, using a major database of Chinese outgoing FDI, the authors empirically investigate the impact of political relations on the location of those investments. The authors find significant inter-country differences between the effects of political relations on the location of Chinese FDI. The improvement in the bilateral political relations is associated with an increase in Chinese FDI to developing countries, yet in developed host countries the economic development and the market size are the main determinants of Chinese FDI.

In the fourth thematic article, Cieślik, Yi Qu, and Ting Qu explore the nature of innovation and its relationship with export performance. The empirical evidence presented by the authors indicate that there is a positive association between the probability of exporting of both product and process innovations, firm size, foreign capital participation and foreign technology. In addition, the results obtained by the authors show an interesting switch in the relevance of process innovations. Data from the year 2003 suggest that process innovations were more important for export performance than product innovations,

whereas there is an adverse correlation in the data from the year 2012, i.e. product innovations gained in importance relative to process innovations. The authors discuss the implications of such findings for international entrepreneurship, and suggest new promising avenues for future inquiries on that subject.

Overall, this Thematic Issue of EBER provides fresh and relevant empirical evidence of entrepreneurship in China, and it points out to such new directions for research on international entrepreneurship which are relevant to both theory development and practice, yet have not been yet fully explored by scholars. Among others, the articles in this thematic issue direct attention to such issues as the relevance of formal institutions (Kenneth-Southworth *et al*., 2018), and thus can help develop the debate proposed by Li, Hitt, Batjargal, Ireland, Miller and Cuervo-Cazurra in their current Call for Papers in the Global Strategy Journal. Another article from this thematic issue (Ng & Fu, 2018) encourages more fine-tuned and novel approaches in the examination of gender issues and cultural differences affecting international entrepreneurship, and so resonate very well with new calls for research on entrepreneurship in Asia recently issued by Wu, Si, Chen and Castro in the Asian Business & Management journal, as well as a special issue dedicated to female entrepreneurs, forthcoming in the same journal (Wu *et al*., forthcoming).

Thus, I trust that all articles in this Thematic Issue, along with the articles included in the 'Others' section in this volume, will invigorate debates on entrepreneurship in China, help answer current puzzling questions about entrepreneurship in the contemporary business environment in Asia, and in general support advancing research on international entrepreneurship, especially in the context of emerging economies.

Michał Lemański
Thematic Issue Editor

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The Impact of Political Relations on China's Outward Direct Investment

Lin Zhang, Xiaoqiong Hao

ABSTRACT

Objective: This article relates to the growing amount of literature on the determinants of the location choice of Chinese ODI. The objective of the article is to investigate whether the improvement in political relations will encourage more investment to a host country or not. Also, the article aims to identify the asymmetric impact of political relations in different host countries.

Research Design & Methods: Using information on bilateral events from People's Daily Database and the website of Chinese Ministry of Foreign Affairs, we establish an indicator for bilateral political relations. Then, this article empirically examines the impact of political relations on the location choice for Chinese ODI based on the quarterly data of foreign direct investment of Chinese enterprises from 2003 to 2014 using a fixed effect model.

Findings: Regression results suggest that political relations have a positive and statistically significant effect on Chinese ODI. The relation rises by one unit, it is associated with an increase in Chinese ODI by USD 25.9 million. The results also suggest that Chinese firms would prefer developing host countries which have a good relation with China, especially those with a better legal system.

Implications & Recommendations: It implies that not all host countries are affected by political relations in the same way. The improvement in the bilateral political relations will increase Chinese ODI to developing countries. In terms of developed host countries, instead of bilateral political relations economic development and the market size are main determinants for Chinese ODI.

Contribution & Value Added: Instead of describing political relations with a single indicator, we build an indicator based on the political events methodology to analyse the location choice of Chinese ODI by using monthly data to capture the accumulated effect of events on political relations.

Article type: research article

Keywords: political relations; China; ODI; institutions; asymmetric

JEL codes: F21, F50

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INTRODUCTION

Foreign direct investment is an important economic activity for a country to expand to overseas markets, optimise resource allocation and acquire strategic resources. Since the launch of the 'One Belt and One Road' initiative in 2013, China's foreign direct investment has grown rapidly. In 2016, investment was up to USD 196.15 billion, an increase by 34.7% year-on-year, and the average annual growth rate from 2002 to 2016 was as high as 35.8% (Statistical Bulletin on China's Outward Foreign Direct Investment, 2016). However, under the increasingly complex international political environment, the country's political risk encountered by Chinese companies during the overseas investment is growing. Especially the recent China-US trade conflict already exerts an adverse impact on Chinese investment to the United States. Due to the setback in economic and trade relations with the U.S., Chinese direct investment in the United States dropped by more than a third (35%) in 2017 compared with 2016, to USD 29 billion of consummated deals. Of all completed transactions in 2017, more than a half (60%) of the value stemmed from the completion of deals announced during the 2016 investment boom. In terms of new activity, the drop was even sharper – the value of newly announced Chinese acquisitions in the US fell to USD 8.7 billion in 2017, a drop of more than 90% in comparison with 2016 and the lowest level in six years (Hanemann & Rosen, 2017). Furthermore, the growing regulatory hurdles in the US – mostly more complications getting clearance from the Committee on Foreign Investment in the United States (CFIUS) – may hurt Chinese investors' confidence, too. The impact of changing political relations on Chinese investors is not rare. Since Myanmar's democratic transformation in 2011, the projects of Chinese companies such as the Myitsone hydropower station and MonywaLetpadaung copper mine have been blocked. On March 30, 2015, the new government led by the National League for Democracy was sworn in. In March 2016, the new government of Myanmar adjusted the foreign investment policy and clearly stipulated that river bank dykes and mineral mining are prohibited areas for foreign investment in Myanmar (Du & Chen, 2016). The above events highlight the importance of studying relations between countries and political risks that affect overseas investment of Chinese companies.

In 2016, China's foreign direct investment showed a rapid growth trend, accounting for 13.5% of the world's total foreign direct investment from 0.5% in 2002, and its volume ranks second in the world for two consecutive years. However, the situation of foreign investment of enterprises is increasingly complex. The replacement power in the host country, the adjustment of internal affairs and diplomacy, and the complexity domestic situation in the host country – they all increase potential risks for a company's overseas investment. Therefore, the main objective of the article is to measure the impact of bilateral political relations on China's ODI and to quantify the change in Chinese overseas investment due to the change in political relations with a host country. Besides, we also hope to identify the causal mechanism of political relations affecting FDI flows to different host countries.

The remainder of the article is arranged as follows. Section 2 describes literature related to our research and our possible contribution to the literature. Section 3 focuses on building the national relations indicator, as well as the explanation of variables and data sources. Section 4 empirically analyses the impact of bilateral relations on the location choice of Chinese investment using a fixed effect model and discusses empirical results, and Section 5 concludes the article.

LITERATURE REVIEW

The political relations among nations are an external political relationship based on national security, strengthening economic exchange and enhancing the influence of the country. It includes diplomacy, war, alliances, trade, cultural exchange, participation in international organisations and other activities (Hu, 2016). Along with the expansion of Chinese overseas investment and an increase in political risks, scholars began to pay attention to the impact of bilateral political relations on investment location choice and the scale of investment.

Casual Mechanism between Political Relations and FDI

A growing amount of literature in the fields of economy and politics has investigated the effects of political relations on FDI. The majority of the research demonstrates that a good relationship between home and host countries facilitates FDI (Nigh, 1985; Bandelj, 2002; Desbordes & Vicard, 2009; Desbordes, 2010; Fornes & Butt-Philip, 2011; Zhang, Jiang, & Zhou, 2014). A few studies find that a deteriorating international relationship cannot influence MNEs' investment decision due to the effect of sunk cost (Davis & Meunier, 2011). Other studies find that whether political relations have an impact on direct investment depends on other factors, such as economic development level, institutional quality, etc. (Li & Vashchilko, 2010; Desbordes & Vicard, 2009).

There are four casual mechanism between political relations and FDI. Firstly, the literature on the impact of political relations on corporate investment in the early period believed that the focus on the political aspects of investment environment came mainly from investors' subjective perception of the political environment of the host country. Nigh (1985) believes that home investors themselves have to pay close attention to interstate cooperation or the impact of conflicts on the host country's business environment. The statistical analysis of US manufacturing FDI finds that national conflicts have significantly reduced US investment, while inter-nation cooperation increases it. Secondly, the rational expectations of investors will influence the ways in which interstate conflicts change investment behaviours. Forward-looking investors integrate their anticipation on how political conflicts affect expected return into investment decisions. Once the risk of political conflicts is expected to be high, they may reduce investment before conflicts occur. But the reality is that companies cannot perfectly assess the risks involved and can only make adjustments ex post when facing unexpected violent acts (Li, 2006; 2008). Li (2006) finds that unanticipated interstate war reduces the chance of a country as an investment location, but has little effect on the amount of FDI inflow. Thirdly, the national relations (military conflict and security alliance) will change the government's policy towards international business and investor expectations of political risk, which in turn will influence the choice of the host country (Li & Vaschilko, 2010). Biglaiser and DeRouen (2007) prove the above mechanism by analysing how the presence of U.S. troops encourages U.S. capital inflows to 126 developing countries. Because they believe U.S. troops in host countries signal positive relations and possibly alliances between the U.S. and host countries, ensuring investment stability available to U.S. firms. Finally, bilateral relations affect investment in host countries by changing the cost of entry and exit. A good bilateral relationship lowers the productivity cutoff for firm entry from one home country while conflict raises it (Li, Vaschilko, & Vaschilko, 2010).

Political Relations and Chinese ODI

Political relation as an important bilateral institutional arrangement has become an important reference for investment decisions. Since political relationship has a complementary effect on institutional environment of host countries, good relations can significantly promote the profits of enterprises' ODI. Especially for host countries with poor institutional environment, the complementary effect is more significant (Liu & Yang, 2016). In addition, scholars tend to describe bilateral relations with the establishment of diplomatic relations, high-level officials' visits, the number of friendly cities, interstate conflicts, and signing Bilateral Investment Treaties (BITs). Findings are that the longer the establishment of diplomatic relations between China and the host country and the more friendly cities, the more investment flows from China to the host country. Also, frequent and friendly diplomatic activities are conducive to alleviate the adverse impact of poor institutional environment of the host country on investment (Zhang & Jiang, 2012). Xiao and Jiang (2014) suggested that state leaders' political interaction has significantly increased the Chinese ODI scale and reduced the relative volatility of investment. In addition, a BIT is considered as a mechanism for host governments to credibly commit not to expropriate investors in the future. Therefore, BITs are effective in promoting FDI inflows to developing countries and may even substitute for weak domestic institutions. Besides, the effect of the entry of a BIT into force of crucially depends on the quality of political relations between the signatory countries; it increases FDI more between countries with tense relationships than between friendly countries (Neumayer & Spess, 2005; Desbordes & Vicard, 2009; Busse, Kniger, & Nunnenkamp, 2010). Research on Chinese ODI shows that BIT does promote the scale and diversification degree of enterprises' investment (Yang, Liu, & Zhang, 2016). Moreover, the effect of BIT differs across the institutional environment of a host country, and it plays more important role in promoting investment to countries with poorer institutions (Zong, Lu, & Wu, 2012). Because good political relations serve as an alternative arrangement to effectively reduce the uncertainty and encourage the investment to host countries with relatively high institutional risks (Pan & Jin, 2015). Furthermore, the bilateral political relations have a stronger promoting effect in ODI of resource intensive industries, while it does not have a significant promoting effect in the infrastructure industry, which is more vulnerable to bilateral political situation and local governments (Yang *et al.*, 2016).

Political Risks and Enterprises' Overseas Investment

Some studies focus on how political risks (bureaucratic corruption, political turmoil and terrorism) affect investment. The results show that firms tend to invest in countries with stable government, low corruption, and less to be the target of terrorist attacks (Mancuso, Dirienzoce, & Das, 2010; Quer, Claver, & Rienda, 2012; Li & Liang, 2012; Vladimír, Lenihan, & Andreosso, 2014). Research on Chinese ODI arrives at similar conclusions that enterprises invest more in countries (regions) with higher political stability. Because the political risks are relatively small, the sound legal system can effectively protect the rights of investors and guarantee the implementation of contracts (Gao, 2011; Xie, 2015; Meng & Dong, 2015). Although some research has shown that host countries' political risk does not seem to hinder Chinese investment, it does not mean that Chinese investment has a preference for political risks, but because the 'shielding' effect of strategic natural resources of a host

country on political risks (Wei & Chen, 2009), or because good political relations between China and host country reduce the political risk (Quer *et al.*, 2012; Li & Liang, 2012). The higher the host country's political risks, the more companies tend to adopt sequential investments, and investment experience can help companies to avoid and reduce some political risks and improve the ODI probability in that host country (Li & Qi, 2017).

As to the influence of political relations on enterprises' investment, the existing literature has achieved relatively rich outcomes in the area. But scholars usually describe political relations with a single indicator, including the establishment of diplomatic relations, high-level officials' visits, friendly cities, interstate conflicts, signing BITs, government stability and control of corruption, etc. We believe the above isolated indicator cannot fully reflect the political relations between countries, since it may ignore the changes in relations caused by unexpected events. Therefore, based on the political events methodology by Yan (2004; 2010), our article contributes to the growing literature that analyses the location choice of Chinese ODI by using monthly data to capture the accumulated effect of events on political relations.

MATERIAL AND METHODS

Based on the above related literature, in this article we test the hypothesis that the location choice of Chinese outward investments depends to a large extent on bilateral political relations. Since the institutional quality varies across countries, we also compare the different effects of political relations on Chinese ODI in developing and developed countries.

Variable Measurement and Data

The variables in this article include China's foreign direct investment flows, political relations, real GDP, real effective exchange rates, openness, and variables for host country institutions (laws and regulations, corruption control). We collected quarterly data from 40 countries (regions) from 2003 to 2014. Each variable is explained as follows:

Dependent Variable $(ofdi_{it})$

The investment data comes from the China Global Investment Tracker provided by the American Heritage Foundation and the Global Outward Investment Database provided by FDI Markets. The stock data cannot accurately reflect the impact of political relations on current ODI due to the accumulated effect of historical events. Therefore, we use the flow of ODI instead of the stock. We select the top 40 host countries (regions) of China's foreign direct investment which accounts for 94.5% of the total investment in 126 countries (regions)[1]. We hope to capture the characteristics of China's ODI with the sample.

Main Independent Variables

Political relations $(\mathrm{Re}la_{it-1})$: We construct an index for describing bilateral political relations based on the methodology proposed by Yan (2010). Firstly, we select relevant events

[1] The 40 countries (regions) are: Argentina, Australia, Belgium, Brazil, Bulgaria, Canada, Egypt, France, Germany, Hong Kong, Hungary, India, Indonesia, Iran, Ireland, Italy, Japan, Kazakhstan, Malaysia, Mexico, Netherlands, Nigeria, Pakistan, Peru, Philippines, Poland, Romania, Russia, Saudi Arabia, Singapore, South Korea, South Africa, Spain, Taiwan, Thailand, Turkey, United Arab Emirates, United Kingdom, United States, Vietnam.

by keywords and then assign scores to each event according to their impact on bilateral relations. The events include but are not limited to the establishment of diplomatic relations, top officials' visits and signing BITs, etc[2]. Secondly, we calculate each event impact score using formula (1). Lastly, we aggregate impact score to get monthly data. We are able to capture the positive or negative impact of each event more accurately by overlapping the impact of historical events on bilateral relations. All bilateral events information comes from People's Daily Database and the website of Chinese Ministry of Foreign Affairs. The events could be dated back as early as October 1949 and the latest data we have is update to December 2014. The formula for event impact is as follows:

$$I = \begin{cases} \frac{N + P_0}{N} I_0, & if\ I_0 < 0 \\ \frac{N - P_0}{N} I_0, & if\ I_0 \geq 0 \end{cases} \quad (1)$$

where:

I - indicates the impact score of an event when the relationship between the two countries was at P_0;

N - is the absolute value of the scope for changes in relations which is 9. For example, declaring war against an ally's enemy or taking the initiative to return the originally occupied territory to each other is considered to have the greatest positive impact on bilateral relations. So events like that score 9. While declaring the independence of a confederation or declaring war against each other indicates the worst bilateral relations which will have a score of -9;

P_0 - is the initial value of the relationship between two countries when the event happened;

I_0 - is the assigned score for each event. It is reasonable to think that the impact of the same event will be different when bilateral relations are different.

Take the establishment of a strategic partnership for example, its impact could be much greater when the two countries are hostile towards each other than that when they are very close to each other. Therefore, we adjust the initial assigned score of each event to be the impact score to reflect the above difference.

Control Variables

1. lnGDP is the logarithm of a host country's real GDP. It is an indicator for market size which attracts market oriented FDI. The data comes from the Economist Intelligence Unit (EIU) quarterly Country database.
2. Open shows the openness of a host country. It is calculated with the share of total exports of services and goods to the country's real GDP. The total exports of services and goods are from the quarterly database of EIU.
3. Rate refers to the real effective exchange rate of the host country's currency against China Yuan[3]. It controls the effect of exchange rate fluctuations on investment costs

[2] For detailed information on events and their scores please contact the author.

[3] The Real Effective Exchange Rate (REER) is the nominal effective exchange rate (NEER) adjusted with the corresponding relative consumer prices. And NEER is weighted average of bilateral exchange rates in which the weights reflect import competition, direct export competition and third-market export competition. Therefore,

and returns affecting ODI of enterprises. The data comes from the EIU's quarterly Country database. Rates for countries including Argentina, Hong Kong, India, Mexico, Peru, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates are from the Bank for International Settlements monthly data. The host country's quarterly rate is the rate for the last month in a quarter.

4. Institution measures the host country's institutional quality. Since lack of protection of property rights increases the risk of the expropriation of private assets, and the imperfect market system (such as corruption) may increase the cost of investment. Also, public goods (such as infrastructure) provided by the government rarely reach the standard with poor institutions in a country. All the above affects the expected return on investment (Bloigen, 2005). In addition, Xie (2013) emphasized that a sound legal and institutional environment can be one of the most important attractiveness for investment. Therefore, we select corruption control (*corrupt*) and rule of law (*law*) as proxy variables for the quality of institutional environment. *Corrupt* reflects perceptions of the extent to which public power is exercised for private gain and *law* reflects 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. The data comes from World Bank's World Governance Indicator (WGI).

Table 1. Descriptive Statistics

Variables	Samples	Mean	S.D.	Min	Max
ofdi	1,920	119.4309	414.4027	0	5312.8
rela	1,919	5.983950	1.7378010	-5	8.1
lngdp	1,628	4.943987	1.4871500	1.71672	9.608425
open	1,440	0.4387731	0.34688560	0.09052	2.129854
rate	1,728	103.6004	22.736060	29.984	185.115
law	1,440	0.6020278	0.90414170	-0.95	1.98
corrupt	1,440	0.5760000	0.96133740	-1.09	2.22

Source: of data: author's calculation.

Table 1 provides descriptive statistics for the above mentioned variables. Investment flows to a host country ranges from 0 for Argentina in 2003 to 5.3 billion dollars for the United States in the 3rd quarter 2014. The relatively large standard deviation of investment shows a big difference in attracting China's investment in the above countries. Also the large standard deviation of bilateral relations and rate indicates that the interstate cooperation and relative value of currencies are quite different as well. Besides, law and corrupt have relatively small standard deviations.

Estimation Strategy

Following the discussion on variables above, we formulated the regression model as follows:

$$ofdi_{it} = \beta_0 + \beta_1 \mathrm{Rel}a_{it-1} + \beta_2 Open_{it} + \beta_3 \ln GDP_{it} + \beta_4 Rate_{it} + \\ + \beta_5 Institution_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (2)$$

REER provides a better indicator of the macroeconomic effects of exchange rates than any single bilateral rate (Klau & Sau Fung, 2006).

where:

i, t - represent the host country and time (quarter) of the investment;

$ofdi$ - is the direct investment flow from China to host countries; Considering the lag effect on investment decisions caused by changes in political relations;

$\mathrm{Re}\ la$ - is political relations lagged by one quarter;

$Open$ - indicates i host country's openness;

$Rate$ - is the real effective exchange rate for the host country's currency;

$Institution$ - measures host country's institutional quality, including corruption controls and the rule of law;

$\ln GDP$ - is the host country's gross domestic product in the logarithm form in order to alleviate possible heteroskedastic problem;

μ_i - represents unobservable factors that change with the country but do not change over time;

λ_t - is fixed effect for years;

ε_{it} - is error item. In another word, a year fixed effect is controlled to isolate the time trend of investment in case of the estimates are over biased.

Therefore, by controlling both year and country fixed effects, we are able to control the impact of country-specific characteristics and some unobservable time-related factors on investment.

RESULTS AND DISCUSSION

Benchmark Results

Table 2 presents results on how bilateral political relations between China and the host countries shape the patterns of Chinese outward investment. We do find that the estimated coefficient for political relations is positive and statistically significant. That is, the improvement of the bilateral relations encourages Chinese enterprises to invest in the host country. Referring to the relation index, we could say that more frequent top officials' visits, establishment of strategic partnership, more friendly cities, signing BIT help to improve bilateral relations, thus promote the investment by reducing transaction costs and uncertainty. We can also infer from the estimation results that if the relation increases by one unit, it is associated with an increase in Chinese ODI by 25.9 million USD (model 6).

We find that the coefficient on *open* indicates a significantly negative relationship between openness and Chinese ODI due to the substitution effects between trade and investment (Brainard, 1997; Chen, 2010). Given the bilateral relations, the more open the host country, the lower trade costs which may induce enterprises entering into the overseas market via trade instead of investing. Besides, ODI is motivated by resource, market or technology acquiring, so reducing investment costs is not the main reason for Chinese ODI to some countries.

Not surprisingly, the coefficient of host country's GDP is insignificant, which suggests that Chinese investment is not motivated by market-seeking. Law is positively significant at 1%, indicating that improvement in host countries' institutional environment attracts more Chinese investment. In addition, corruption becomes a barrier to foreign investment by raising transaction costs and reducing the public trust in the government as well as the efficiency of bureaucratic agencies. It is consistent with the positive coefficient of *corrupt*, that better control of corruption contributes to reducing the barriers and attracting more investment.

Table 2. Full Sample Empirical Results

Variable	ODI					
	(1)	(2)	(3)	(4)	(5)	(6)
Relation	11.2241**	21.3527*	21.2852*	21.6486*	23.7001**	25.8875**
	(3.4483)	(7.9980)	(7.9800)	(8.2525)	(8.0095)	(6.5834)
Open		-464.9462**	-463.5174**	-472.1167**	-513.0538**	-495.0859*
		(148.4354)	(155.1772)	(157.6862)	(179.5009)	(199.8621)
lnGDP			4.0503	12.4020	6.7586	-20.4306
			(105.9775)	(102.6527)	(111.7993)	(100.8369)
Rate				-0.3996	-0.7892	-0.5187
				(0.4020)	(0.4777)	(0.3356)
Law					173.7888***	
					(15.6283)	
Corrupt						119.7468**
						(33.8968)
Constant	0.6078	46.0366	25.9045	24.3846	-7.7890	100.9961
	(52.7325)	(135.6766)	(543.4537)	(535.7021)	(641.4615)	(561.0976)
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Sample	1,919	1,439	1,439	1,439	1,439	1,439
R-squared	0.0558	0.0783	0.0783	0.0784	0.0797	0.0799

Note: Standard errors are in parentheses; ***, **, and * are significant at the 1%, 5% and 10% levels respectively.
Source: own study.

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Sub-Sample Results

Considering the availability of data, the full sample is divided into two sub-samples – developing and developed countries or regions[4]. Then we introduced the intersection term of political relations and GDP, political relations and open to examine how relations affects firms' investment via openness.

Table 3. Sub-Sample Results (Institution is proxy by Corrupt)

Variable	developing countries			developed countries		
	(1)	(2)	(3)	(4)	(5)	(6)
Relation	134.9933***	160.2445*	379.4284*	9.0251	56.0499*	-192.5730*
	(47.2078)	(83.5077)	(219.5083)	(20.1719)	(32.9137)	(98.4793)
Open	-432.9531	59.8862	-517.4427	-1,106.2840***	218.3152	-1,217.2118***
	(391.3160)	(1,399.9186)	(398.1874)	(391.8269)	(831.1700)	(394.3251)
Rela×Open		-76.4878			-195.1982*	
		(208.5933)			(108.0778)	
lnGDP	-97.2910	-123.6098	235.0674	246.2407	340.6507	261.5098
	(216.0915)	(227.8269)	(362.8205)	(350.4089)	(353.6414)	(349.5140)
Rate	0.1029	0.1272	-0.2446	-3.4066	-4.0588*	-4.1957*
	(1.4987)	(1.5011)	(1.5290)	(2.3797)	(2.4025)	(2.4029)
Corrupt	282.6434**	287.0045**	257.4096**	-52.4103	-15.3078	-20.9043
	(120.7101)	(121.3690)	(122.6965)	(118.3746)	(119.9268)	(119.0040)
Rela× lnGDP			-56.5704			30.2441**
			(49.6133)			(14.4625)
Constant	-291.5776	-343.9658	-1,664.7029	-506.6266	-1,347.0764	-287.5476
	(980.1809)	(991.1395)	(1,552.6029)	(1,899.5023)	(1,952.2384)	(1,897.1325)
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Sample	767	767	767	672	672	672
R-squared	0.0969	0.0971	0.0986	0.1194	0.1241	0.1257

Source: own study.

As shown in Tables 3 and 4, even with the introduction of interaction terms, bilateral relations still have a very strong influence on Chinese ODI to developing countries. The significant positive sign of the variable indicates its impact exerted on Chinese ODI. Besides, the coefficients on both control of corruption and rule of law are positively significant at 5%. This result suggests that Chinese firms would prefer developing host countries which have a good relation with China, especially those with a better legal system.

[4] According to the UNDP: Human Development Index released in the 2016 Human Development Report, the United Kingdom, the United States, Australia, Belgium, Canada, France, Germany, Ireland, Japan, South Korea, Spain, Taiwan, Hong Kong, and the Netherlands are considered as developed countries (regions).

As for developed host countries, either bilateral relations or institutions do not significantly affect Chinese ODI. This may because Chinese investment to such locations is mainly motivated by market-seeking. Furthermore, the role of political relations in protecting investment is greatly weakened in countries with better institutions. In contrast, openness and exchange rate now become significant. The more open a host country is, the less investment is attracted to it, indicating the substitution between trade and investment. An increase in real effective exchange rate will make the host countries less attractive by raising both the fixed costs and labour costs.

Table 4. Sub-Sample Results (Institution is proxy by Law)

Variable	developing countries			developed countries		
	(1)	(2)	(3)	(4)	(5)	(6)
Relation	113.6939**	112.7771	469.8228**	6.6449	48.5152	-182.3087*
	(46.9840)	(83.0493)	(217.3172)	(19.6614)	(32.2492)	(98.5925)
Open	-335.7904	-353.8181	-469.1001	-1,082.2998***	110.8270	-1,190.3579***
	(389.9926)	(1,401.5888)	(397.5034)	(391.5260)	(827.2472)	(394.5055)
Rela×Open		2.7910			-176.5045	
		(208.4118)			(107.8470)	
lnGDP	41.0432	41.9004	500.9635	285.3484	373.0083	300.8351
	(205.2747)	(215.1642)	(342.2314)	(348.9943)	(352.6038)	(348.2739)
Rate	-0.9597	-0.9616	-1.5901	-3.6367	-4.1072*	-4.2688*
	(1.6550)	(1.6617)	(1.6950)	(2.3457)	(2.3600)	(2.3624)
Law	329.6972**	329.8629**	347.8572**	-333.6905	-271.3759	-274.5732
	(165.2055)	(165.7860)	(165.3457)	(227.1871)	(230.0459)	(228.6665)
Rela×lnGDP			-82.0768*			28.2709*
			(48.9035)			(14.4564)
Constant	-670.9682	-668.4867	-2,552.3425*	-304.9296	-1,119.8219	-150.5285
	(947.5021)	(966.1165)	(1,466.9737)	(1,897.7640)	(1,959.4582)	(1,895.0023)
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Sample	767	767	767	672	672	672
R-squared	0.0950	0.0950	0.0986	0.1223	0.1261	0.1278

Source: own study.

Obviously, the two interaction terms are insignificant for developing host countries, suggesting that the openness and market size will not change the impact of bilateral relations on investment. However, when we look at developed countries, the negative sign of interaction between relation and open suggests that the role of political relations is weakened for countries which are more open. And the positive sign of interaction between relation and GDP indicates that the role of political relations is strengthened. In other words, Chinese firms are attracted to friendly host countries with a large market.

Robustness Check

Good political relations help promote bilateral investment, while at the same time bilateral investment is helpful to remove cultural and institutional barriers, thus strengthen bilateral relations. Therefore, it is possible to have reverse causality between political relations and investment, resulting in biased estimates. To deal with this problem, refer to Desbordes and Vicard (2009) and Liu and Yang (2016).We introduce relations lagged by three quarters as the instrumental variable of the political relations in benchmark model. The results of two-stage least squares with instrumental variable are consistent with the above fixed effect model (Table 5). That is, the improvement in political relations could significantly promote Chinese investment, suggesting the robustness of our conclusions.

Table 5. Two-Stage Least Squares Results

Variable	ODI	
	(1)	(2)
Relation	15.9887**	15.8929*
	(6.2776)	(8.2370)
Open	-479.8708**	-500.8663***
	(186.4402)	(168.3689)
lnGDP	-8.3903	14.9461
	(94.4939)	(104.0801)
Rate	-0.4736	-0.7484
	(0.3545)	(0.4691)
Corrupt	112.2548***	
	(27.7612)	
Law		169.1172***
		(14.4175)
Constant	290.6023	7.8358
	(893.5285)	(997.1727)
Observations	1,439	1,439
R-squared	0.1692	0.1692

Source: own study.

CONCLUSIONS

This article contributes to the literature on the determinants of Chinese ODI. We quantitatively measure the bilateral political relations between China and forty major host countries on monthly basis from 1950 to 2014. Then, building on the literature on political relations or risks and FDI in general, we identify the causal mechanisms of political relations and Chinese outward investment. Using fixed effect regression model, our main findings are consistent with the recent research focusing on political factors explaining China's ODI. The effects of political relations in promoting Chinese investment are varying across countries. It works very well for developing hosts but it seems not to work for developed hosts. Since better political relations complement to the imperfect institutions in developing countries, the risk-

reduction effect of good political relations is much greater than that for developed countries. There is no evidence for firms investing in countries with high political risks. Even if it is true in few cases, their behaviour can be explained with our model. In addition, investments in developed countries are mainly driven by market or technology, which make the role political relations less important in determining the location of Chinese ODI.

When making investment decisions, Chinese MNEs' do take the bilateral political relations into account. However, it is far from enough. The main policy implications of our findings are that firms should look closely at the interaction between political relations and the institutional environment of a host country, especially hosts with poor institutions. In that case, building the early warning system for political risks is necessary for firms' strategic investment decision. Furthermore, investors should make good use of but not overly depend on bilateral relations, and cooperate with local firms based on the factor endowments. Finally, investing sectors are better to be consistent with the strategy of both China and host countries. For example, with the guidance of 'Belt and Road' initiative and 'Thirteenth Five-Year Plan', the outward investment should focus on the Internet combined with manufacturing, finance, information and communications, smart energy, smart healthcare, transportation and dynamic environmental monitoring services. Also, Chinese and European firms should strengthen their cooperation in areas such as transportation infrastructure, power energy and digital infrastructure within the framework of 'EU Infrastructure Investment Plan' (Juncker plan).

Despite the above contributions, we believe that our empirical research has some limitations that can be addressed in future research. The main limitation may be that certain variables that may also have an influence on location decisions could not be included, such as trade, characteristics of firms and different types of FDI. Depending on a firm's productivity and the motivation of FDI, the political relations linked to each location may play a very different role. For example, firms with higher productivity (i.e. huge fixed costs with economies of scale) seeking strategic asset may be far less reactive to political tensions. In addition to this, due to the availability of data we were unable to evaluate the change of Chinese ODI flowed to Belt & Road countries driven by the initiative. It will be left for future research when more data are available.

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Innovations and Export Performance: Firm Level Evidence from China

Andrzej Cieślik, Yi Qu, Ting Qu

ABSTRACT

Objective: The goal of this article is to study the relationship between innovations and exporting of Chinese firms and identify which type of innovation contributes most to the probability of exporting.

Research Design & Methods: We refer to the recent strand in the new trade theory literature that stresses the importance of firm productivity in entering export markets. We distinguish between product, process and managerial innovations that can increase productivity. The empirical investigation is based on the probit model and the firm-level data set covering two years: 2003 and 2012.

Findings: Our empirical results show that the probability of exporting is positively related to product and process innovations, firm size, foreign capital participation and foreign technology. Moreover, we find that in 2003 process innovations were more important for export performance than product innovations, while in 2012 it was the opposite.

Implications & Recommendations: Firms should coordinate their strategic assets and resources for innovation in order to enhance their overall level of competitiveness. Governments should work on establishing stronger institutional environment necessary to provide firms with protection of intellectual property rights, an easier access to financing of innovation, a lower tax burden upon innovative firms, the higher quality of human resources to firms and more supportive policy packages.

Contribution & Value Added: In contrast to previous that used only the R&D spending as the measure of innovation in our study we also use innovation outcomes. In particular, we determine which innovation type is of greatest importance, having controlled for the set of other firm characteristics.

Article type: research article

Keywords: China; export activity; firm heterogeneity; innovations; probit model

JEL codes: F14, P33

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INTRODUCTION

Innovation is one of key issues related to the modernisation and development of the Chinese economy. However, empirical studies devoted to the role of innovation in firm export performance in China and other emerging economies still remain relatively scarce. One of the elements of innovation activity that is extensively studied in the context of firm export performance is research and development (R&D) activity (e.g. Aw, Roberts, & Xu, 2009; Hirsch & Bijaoui, 1985; Spencer & Brander, 1983; Zhao & Li, 1997; Zhou & Song, 2016). This activity is often described as the process of systematic creative work that combines both basic and applied research aimed at extending the company's knowledge resources and their practical applications. R&D may also result in improved efficiency of the company (Aw *et al*., 2009).

However, innovation measures can include not only R&D spending but also its effects. Innovations usually cover product and process innovations as well as the creation of intellectual property rights related to patents and trademarks (Qu & Wei, 2017; Qu, Wei, Jiang, & Zheng, 2017). Previous empirical evidence on the role of particular types of innovations in stimulating firm export performance focused mainly on firms located in advanced countries with high shares of innovative firms, such as Germany or the United Kingdom (e.g. Lachenmaier & Wößmann, 2006; Roper & Love, 2002; Wagner, 1996). However, these studies focused mainly on product and process innovations, while the empirical evidence for other forms of innovation is still scarce. Unfortunately, the number of studies that focus on the effects of innovation activities is still scarce, especially in the context of the Chinese economy.

Therefore, the main objective of this article is to study the relationship between innovations of Chinese firms and their export performance using various measures of innovation activities. In particular, we validate the general hypothesis concerning the positive relationship between innovations and exporting. Unlike previous studies that use only the R&D spending as the measure of innovation, in our study we also use innovation outcomes. Our specific hypotheses postulate positive relationships between firm export performance and three types of innovations: product, process and managerial innovations. In particular, we seek to determine which of the aforementioned innovation types is of greatest importance, having controlled for the set of other firm characteristics that were found important for exporting in previous empirical studies.

Our study is based on the firm-level data for Chinese firms collected by the World Bank for two years: 2003 and 2012. Our results can be useful in proposing policy recommendations that can apply to China as well as to other Newly Industrialised Countries (NICs), as firms from these countries still lag behind in terms of innovations compared to firms from more developed countries. Therefore, it is of particular importance to determine which of innovation types could contribute most to improving their export performance.

The remainder of this article is organised as follows. In the next section we survey the relevant literature on the relationship between various types of innovations and exporting. Then, we describe the analytical framework, discuss the research hypotheses, present

definitions and sources of our explanatory variables and describe the empirical methodology. Finally, we discuss our estimation results. Concluding remarks, policy guidelines and directions for future research are provided in the last section.

LITERATURE REVIEW

There exists an extensive theoretical and empirical literature on determinants and effects of innovation in the context of advanced economies. In particular, the main hypothesis in this literature is that innovation can be regarded as a driver of productivity improvement at the firm-level that in turn could stimulate exports. The literature identified two main types of innovation that affect export performance: product and process innovations. Product innovation is the key factor for successful market entry in models of creative destruction and Schumpeterian growth, while process innovation reduces costs of production and strengthens the firm's market position. Both types of innovation are expected to raise firm's productivity and improve export performance.

In dynamic models with heterogeneous firms (Jovanovic, 1982; Hopenhayn, 1992; Melitz, 2003; Grossman, Helpman, & Szeidl, 2006), investment in firm-specific assets that could be associated with product innovation leads to a selection of firms into export markets. In particular, less productive firms do not participate in export markets at all, while more productive ones supply consumers both at home and abroad. In this context, investment in firm-specific assets and a high total factor productivity are the key determinants of a firm's export propensity.[1] Atkeson and Burstein (2007) and Constantini and Melitz (2008) developed dynamic models to formalise linkages between firm-level productivity and the choices of both to export and to invest in R&D or adopt new technology. In their models, productivity distinguishes heterogeneous firms, and its evolution is affected by innovation decisions at the firm-level apart from a stochastic component.

There is also extensive empirical literature that points to a positive impact of innovations on exports. The majority of the existing studies rely on R&D expenditures as a measure of innovation (Hirsch & Bijaoui, 1985; Kumar & Siddharthan, 1994; Braunerhjelm, 1996; Basile, 2001; Cieślik, Michałek, & Michałek, 2012; 2014a, b, c; 2015). There is a limited number of studies that employ survey data with explicit information on actual innovation outcomes (Wagner, 1996; Wakelin, 1998; Bernard & Jensen, 1999; Roper & Love, 2002; Lachenmaier & Wößmann, 2006; Cassiman, Golovko, & Martínez-Ros, 2010; Van Beveren & Vandenbussche 2010; Becker & Egger 2013, Cieślik *et al.*, 2016, Brodzicki, 2017, Cieślik & Michałek, 2017; 2018).

Most studies on advanced economies found support for the positive relationship between innovations and exporting. In particular, it is found that firms that introduce either process or product innovation were more probable to export compared to the firms that do not innovate at all. Moreover, product innovations seem to be more important in affecting firm export performance than process innovations. In the remaining part of this section we summarise the literature devoted to studying the relationship between innovations and export performance in China.

[1] The early industrial organisation literature stressed the role of marginal cost-reducing innovations in international oligopoly models (Spencer & Brander, 1983). According to this literature, a higher investment in such innovations increases a firm's output sold in domestic and foreign markets.

In one of the first empirical studies, Zhao and Li (1997) looked at the role of R&D in affecting export propensity and export growth of Chinese manufacturing firms. Their results suggested that R&D produced a positive and significant impact on both export propensity and growth. Subsequently, Liu and Shu (2003) investigated the determinants of export performance of Chinese industries. Their study revealed that FDI, labour costs and firm size were important determinants of export performance. In particular, FDI could bring about significant spillover effects which might positively affect the level of innovation capability of Chinese industries, and in turn boost their export performance.

In contrast, Guan and Ma (2003) looked at the role of innovation capabilities and firm-level factors in affecting export performance of Chinese industrial firms. Overall, their study showed that harmonising and interaction of innovation assets can significantly promote their exports. More recently, Huang, Hu and Liu (2015) studied the relationship between innovation behaviour of firms and their export propensity. Their results suggested that firms would export only when their product or process innovations reach certain thresholds. Moreover, they found that product innovations had a stronger effect on exports than process innovations.

Zhou and Song (2016) looked at how trade participation affects the R&D investment of Chinese manufacturing firms. Using firm-level data, their results reveal that channels such as geographical diversification of export markets can affect firm-level R&D investment. Wei and An (2016) analysed relationships between innovation, institution and firm export performance. Their results revealed that innovation promoted export performance, however, institutions seemed to have a negative moderation effect on this relationship.

In this article we investigate whether different types of innovations improve the ability of Chinese firms, which are still less innovative compared to their counterparts located in the advanced economies, to compete in international markets. In contrast to previous studies we not only examine the relative importance for exporting product and process innovations, but also the role of managerial innovations and the ways innovations are introduced. Our study allows to formulate specific recommendations for the design of the economic policy in China and other NICs, especially for policies aimed at encouraging innovation in these countries.

MATERIAL AND METHODS

The latest strand in the New Trade Theory (NTT) literature that focuses on the role of firm heterogeneity in export performance argues that the level of firm productivity is critical for exporting. In particular, the Melitz (2003) model and its subsequent extensions point at the existence of a positive relationship between firm productivity and export performance. However, in his model productivity differences among firms are exogenously given and each firm has to pay fixed costs of entry into domestic and foreign markets. Following recent studies by Cieślik and Michałek (2017; 2018), in our article we refer to the modified Melitz (2003) model in which both productivity as well as the costs of export market entry can be endogenised as related to various types of innovations.

In our framework the dependent variable indicating the export status of firm *i* is denoted by Y_i^*. However, instead of observing the volume of exports, we observe only a binary variable Y_i indicating the sign of Y_i^*, i.e. whether the firm sells its output in the domestic market (local, regional or national) or it exports. Moreover, the variable

Y_i^* is assumed to follow $Y_i^* = \mathbf{X_i}\boldsymbol{\Theta} + \varepsilon_i$, where the error term ε_i is independent of $\mathbf{X_i}$ which is a vector containing explanatory variables that affect exports with the first term equal to unity for all i, $\boldsymbol{\Theta}$ is the vector of parameters on these variables that needs to be estimated and ε_i is assumed to be normally distributed with a zero mean.

Our dependent variable follows a binary distribution and takes the value 1 when the firm exports and 0 otherwise:

$$Y_i = \begin{cases} 1 \; if \; Y_i^* > 0 \\ 0 \; if \; Y_i^* = 0 \end{cases} \tag{1}$$

We can obtain the distribution of Y_i given $\mathbf{X_i}$. Hence, the probability that a firm exports can be written as:

$$P(Y_i = 1 \mid \mathbf{X_i}) = \Phi(\mathbf{X_i}\Theta) \tag{2}$$

where:

$\Phi()$ - denotes thestandard normal cumulative distribution function (cdf).

To be able to successfully employ the probit model, it is important to know how to interpret the vector of estimated parameters on the explanatory variables Θ. Consider a specific explanatory variable $x_{ij,}$ which is an element of vector $\mathbf{X_i}$. The partial effect of x_{ij} on the probability of exporting can be written as:

$$\frac{\partial P(Y_i = 1 \mid \mathbf{X_i})}{\partial x_{ij}} = \frac{\partial p(\mathbf{X_i})}{\partial x_{ij}} \tag{3}$$

When multiplied by Δx_{ij} equation (3) gives the approximate change in $P(Y_i = 1 \mid \mathbf{X_i})$ when x_{ij} increases by Δx_{ij}, holding all other variables constant.

The data sources used for this article are two *World Bank Enterprise Surveys* (WBES) on Chinese firms for the years 2003 and 2012, respectively.[2] Those surveys were accomplished in collaboration with the Chinese National Bureau of Statistics. The WBES project is a World Bank project aiming to study the business environment and investment climate of selected countries at the firm-level. Firms in the survey are drawn from several industries and cities of the targeted country. The WBES 2003 dataset covers 2.400 firms from 18 major Chinese cities and 11 industries for three years with 7.200 observations altogether. In WBES 2003, questions are asked in relation to exports, innovation, foreign involvement, institutions, ownership structure, production, etc.[3] The WBES 2012 dataset covers 2.700 firms from 25 major Chinese cities and 26 industries for the year 2011. In WBES 2012, questions are asked regarding exports, innovation, foreign involvement, ownership structure, production, inputs, outputs, etc. Despite only one year of observation, many questions in WBES 2012 are in relation to the situation of firms during the past three years, which are 2009-2011.[4]

Both 2003 and 2012 datasets are characterised by a high level of reliability and representativeness. Stratified sampling techniques were used to guarantee good representation of firms in selected industries and locations. Moreover, private contractors were hired to do face-to-face interviews with corporate managers and accountants of the major busi-

[2] There is WBES on Chinese firms for 2005, however, it was not used in this study as WBES 2005 does not contain the variables that are needed to investigate our research questions.

[3] The data span is 2000-2002 for some variables such as exports, innovation, input, output, etc. However, for some variables, firms were interviewed only once in 2003, so the responses to such questions are only for the year 2002.

[4] For example, 'In the fiscal year 2011, what percentage of this establishment's total annual sales was accounted for by products or services that were introduced in the last three years?'.

ness lines to assure that the collected data is of high quality. In China, only those with export licenses issued by the Ministry of Commerce of China can export. In order to apply for the license, a firm needs to provide required documents and show to the Ministry that its scope of business complies with regulations on exported commodities. With such a license, a firm can export directly or be an export agency and export on behalf of others indirectly. Therefore, a firm will be treated as an exporter as long as it has such a license, and this is consistent with the status of being an exporter in our dataset. For those engaged in exporting, they either export directly themselves (direct export) or sell their products to direct exporters or export agencies (indirect export).

In our study we selected a number of independent variables chosen from the survey, which reflect firm innovations and other firm characteristics. The variables description is presented in the Table 1.

Table 1. Independent variables used in the empirical study

Independent variables	Definition
New product introduction (mainly used to distinguish innovators from non-innovators)	Has this establishment introduced any new products or services? (Yes=1; No=0)
Innovation engagement	Has the firm engaged in identified types of innovation activities? (Yes=1; No=0)
R&D	Did this establishment spend on R&D activities within the establishment? (Yes=1; No=0)
Patents	Does the firm have patent granted? (Yes=1; No=0)
Product innovation	For WBES 2003: introduce new products (or services) in existing business and entered new business line. For WBES 2012: introduce new technology and equipment for product or process improvements or not, introduce a new product or a new service or not, and add new features to existing products or services or not. (Yes=1; No=0)
Process innovation	For WBES 2003: New process improvements, new management techniques and new quality controls in production. For WBES 2012: introduce new quality control procedure in production or operations or not, introduce new managerial/administrative processes or not, provide technology training for staff or not, take measures to reduce production cost or not, and take actions to improve production flexibility or not. (Yes=1; No=0)
Managerial innovation	For WBES 2003: introduce new managerial/administrative processes or not. For WBES 2012: introduce new managerial/administrative processes or not and provides technology training for staff or not. (Yes=1; No=0)
Ways of introducing product innovation	Developed or adapted in house; Developed in cooperation with suppliers; Developed in cooperation with client firms; Introduced your own version of a product already supplied (by another firm); Implemented idea from internal R&D; Implemented idea from an external source, e.g. consultants, universities and research institutions, etc.

Independent variables	Definition
Ways of introducing process innovation	Developed or adapted in house; Developed in cooperation with suppliers; Developed in cooperation with client firms; Licensed technology or process from another firm; Implemented idea from internal R&D; Implemented idea from an external source, e.g. consultants, universities and research institutions.
Firm size	The number of employees
Firm age	The number of years since firm establishment
Foreign technology	Has the firm applied foreign technology? (Yes=1; No=0)
Foreign ownership	Is the firm partly/wholly owned by foreign parties? (Yes=1; No=0)

Source: own study.

The product innovation in this research refers to the creation of new products or the modifications of the functions of existing products. The process innovation refers to changes and improvements made on the ways of organising production including new techniques, new equipment and new organisational and managerial modes. Managerial innovation can therefore be regarded as a part of process innovation. Given the important role of managerial innovation in the firm's performance, in some of our regressions managerial innovation is picked out and its effect on the export of firms is evaluated.

The calculated values of correlations between explanatory variables for the years 2003 and 2012 are reported in Table 2 and 3, respectively.[5]

Table 2. Correlations between explanatory variables for WBES 2003

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) New Products	1										
(2) Patent	0.091	1									
(3) Innovation Engagement	0.195	0.190	1								
(4) R&D	0.157	0.195	0.269	1							
(5) Firm Size	0.176	0.150	0.219	0.288	1						
(6) Firm Age	0.059	-0.029	-0.062	0.100	0.375	1					
(7) Foreign Technology	0.055	0.144	0.069	0.114	0.117	-0.002	1				
(8) Foreign ownership	0.025	-0.013	0.103	0.126	0.090	-0.156	0.003	1			
(9) Product Innovation	0.058	0.063	0.529	-0.036	0.008	0.018	0.002	-0.078	1		
(10) Process Innovation	0.185	0.128	0.756	0.164	0.174	-0.003	0.098	-0.000	0.204	1	
(11) Managerial Innovation	0.118	0.071	0.718	0.093	0.126	-0.007	0.076	-0.009	0.154	0.811	1

Source: own study.

[5] We report correlations among all the variables that were used in our study, but only some of them are associated with specific models we estimated.

Table 3.1. Correlations between explanatory variables for WBES 2012[6]

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) New Product	1									
(2) R&D	0.509	1								
(3) Innovation Engagement	0.304	0.261	1							
(4) Firm Size	0.180	0.240	0.206	1						
(5) Firm Age	0.007	0.025	0.050	0.196	1					
(6) Foreign Technology	0.283	0.205	0.120	0.232	0.016	1				
(7) Foreign Ownership	0.061	0.066	0.049	0.068	-0.055	0.195	1			
(8) Product Innovation	0.621	0.464	0.462	0.218	0.025	0.328	0.081	1		
(9) Process Innovation	0.407	0.373	0.606	0.269	0.061	0.245	0.098	0.687	1	
(10) Managerial Innovation	0.349	0.309	0.509	0.282	0.055	0.246	0.110	0.601	0.869	1

Source: own study.

Table 3.2. Correlations between explanatory variables of regressions in Tables 8 & 9

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Developed or adapted in house	1									
(2) Developed in cooperation with suppliers	0.256	1								
(3) Developed in cooperation with client firms	0.245	0.518	1							
(4) Introduced own version of a product already supplied	0.037	0.303	0.288	1						
(5) Implemented idea from internal R&D	0.585	0.129	0.189	0.114	1					
(6) Implemented idea from an external source	0.272	0.384	0.279	0.282	0.302	1				
(7) Firm age	0.031	-0.012	-0.007	-0.004	0.029	0.058	1			
(8) Firm size	0.134	0.065	0.052	0.024	0.130	0.151	0.222	1		
(9) Foreign technology	0.042	0.107	0.057	0.144	0.021	0.177	0.006	0.212	1	
(10) Foreign ownership	0.015	0.053	0.080	-0.002	0.025	0.097	-0.052	0.051	0.190	1

Source: own study.

Table 3.3. Correlations between explanatory variables of regressions in Tables 10 & 11

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Developed or adapted in house	1									
(2) Developed in cooperation with suppliers	0.303	1								
(3) Developed in cooperation with client firms	0.244	0.451	1							

[6] The WBES 2012 dataset does not have patent data as WBES 2003 does. Therefore, we cannot include patent data in our estimations. Due to the fact that too many variables will appear in one correlation table, the correlation test of 'the ways of introducing product and process innovations' is reported in sub-tables separately.

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(4) Introduced own version of a product already supplied	0.009	0.325	0.317	1						
(5) Implemented idea from internal R&D	0.508	0.148	0.251	0.127	1					
(6) Implemented idea from an external source	0.189	0.310	0.260	0.355	0.286	1				
(7) Firm age	0.025	-0.025	-0.002	0.034	0.032	0.048	1			
(8) Firm size	0.147	0.048	0.071	0.101	0.163	0.124	0.221	1		
(9) Foreign technology	0.013	0.067	0.036	0.249	0.064	0.214	0.006	0.215	1	
(10) Foreign ownership	0.005	0.043	0.079	0.041	0.027	0.080	-0.055	0.051	0.195	1

Source: own study.

RESULTS AND DISCUSSION

In this section we report estimation results for each year of our sample: 2003 and 2012, respectively. Estimation results for the year 2003 are reported in Table 4 where exporting refers to the combination of direct and indirect exports of products and services.

Table 4. Innovation and Propensity to Export in 2003

Variable	(1)	(2)	(3)	(4)
New Products	0.042			
	(0.076)			
Patents		0.216***		
		(0.059)		
Innovation Engagement			0.152***	
			(0.048)	
R&D				0.353***
				(0.044)
Firm Size	0.307***	0.319***	0.32***	0.302***
	(0.022)	(0.015)	(0.015)	(0.015)
Firm Age	-0.015***	-0.017***	-0.017***	-0.017***
	(0.002)	(0.002)	(0.002)	(0.002)
Foreign Technology	-0.189***	-0.140	-0.106	-0.182
	(0.135)	(0.116)	(0.114)	(0.114)
Foreign Ownership	0.951***	0.881***	0.861***	0.825***
	(0.082)	(0.064)	(0.064)	(0.065)
Number of observations	2961	6889	7005	7005
R^2	0.155	0.157	0.156	0.166

Notes: 1. Innovation activity is measured by new product introduction (Yes/No); Patent granted (Yes/No); innovation engagement (Yes/No); R&D (Yes/No); 2. Control variables include: firm size; firm age; foreign technology; foreign ownership; 3. Robust standard errors are reported in parentheses. ***, ** and * indicate that the coefficient is significantly different from zero at the 1%, 5% and 10% levels, respectively; 4. In order to save on space the estimates of constant terms are not reported.
Source: own study.

In column (1) of Table 4 we report results where our innovation measure is a dummy variable indicating whether the firm introduced any new products, having controlled for

its characteristics such as size, age, the use of foreign technology and foreign ownership. It turns out that this measure is not statistically significant at all, while all control variables are statistically significant already at the 1% level.

In column (2) we show results where our innovation measure is a dummy variable indicating whether the firm was granted a patent. This measure is significant at the 1% level and displays an expected positive sign. In column (3) we report results where our innovation measure is a dummy variable indicating whether the firm is engaged in innovation. The estimated coefficient on this variable displays an expected positive sign and is significant at the 1% level.

Finally, for the sake of comparison with the earlier studies based on innovation inputs, such as Cieślik *et al*. (2014a, b, c; 2015; 2016), in column (4) we present results where our innovation measure is a dummy variable indicating whether the firm undertook R&D. This variable is significant at the 1% level and displays a positive sign, which confirms the importance of R&D for exporting, documented in previous studies for other countries, also for China. In particular, this result is in line with the results of the early study by Zhao and Li (1997) who demonstrated that R&D produced a positive and significant effect on exports.

Estimation results from Table 4 indicate that patents, innovation engagement and R&D are positively and significantly related to firm's propensity to export in 2003. Moreover, new product introduction was found to generate no effect on firm's propensity to export. In addition, our estimation results revealed that firm characteristics, such as firm size, firm age and foreign ownership were important determinants of firm export performance.

In Table 5 we report estimation results for the year 2003 in which we distinguish between specific types of innovation: product innovation, process innovation and managerial innovation.

Table 5. Product, Process and Managerial Innovation and Propensity to Export in 2003

Variable	(1)	(2)	(3)	(4)
Product Innovation	-0.034	0.036		
	(0.029)	(0.025)		
Process Innovation	0.098***		0.087***	
	(0.020)		(0.017)	
Managerial Innovation				0.167***
				(0.042)
Firm Size	0.312***	0.325***	0.311***	0.317***
	(0.015)	(0.015)	(0.015)	(0.015)
Firm Age	-0.017***	-0.018***	-0.017***	-0.017***
	(0.002)	(0.002)	(0.002)	(0.002)
Foreign Technology	-0.134	-0.102	-0.137	-0.119***
	(0.115)	(0.116)	(0.115)	(0.115)
Foreign Ownership	0.862***	0.870***	0.859***	0.87***
	(0.064)	(0.064)	(0.064)	(0.064)
Number of observations	7005	7005	7005	6951
R^2	0.159	0.155	0.159	0.157

Notes: 1. In model (1), both product and process innovation measures are included, while in models (2) and (3), only one of these measures is included; 2. Innovation activity is measured by product, process and managerial innovations. Following the existing literature, the sum of responses to the questions: 'Introduced new products (or services) in existing business' and 'Entered new business line' is treated as a product innovation, while the

sum of response to questions: 'New process improvements', 'New management techniques' and 'New quality controls in production' is treated as a process innovation. The response to the question: 'introduce new managerial/administrative processes or not' is treated as a managerial innovation.
Source: own study.

In column (1) of Table 5 we report results where we included dummies for product and process innovations, having controlled for other firm characteristics. It turns out that only the process innovation variable is significant at the 1% level and displays the expected positive sign. In columns (2) and (3) we report estimation results obtained separately for product and process innovations. These results confirm our findings from column (1) as the product innovation variable is not significant and the process innovation variable remains significant at the 1% level. Finally, in column (4) we report results obtained for managerial innovations. Our measure of managerial innovations is significant at the 1% level and displays the expected positive sign.

The results from Table 5 indicate that both process innovation and managerial innovation produced positive and significant effects on a firm's propensity to export in 2003. At the same time product innovation was found to generate no significant effects on a firm's propensity to export. This means that only process innovation (i.e. new process improvements, new management techniques and new quality controls in production) and managerial innovation (i.e. introduce new managerial/administrative processes or not) are significant contributing factors to exporting of firms rather than product innovation (introduced new products/services in existing business and entered new business line). The empirical results obtained for the control variables were similar to those reported in Table 4.

The results on the relationship between various measures of innovation and propensity to export for the year 2012 are reported in Table 6. The particular columns of Table 6 are the counterparts of the columns in Table 4.

In columns (4)-(6) we enrich our analysis by reporting estimation results for indirect exports. Columns (4)-(6) of Table 6 are direct counterparts of columns (1)-(3). It turns out that all innovation measures are significant at the 1% level and display positive signs. The results from Table 6 indicate that new production introduction, innovation engagement and R&D have positive and significant effects on firm's propensity to export both directly and indirectly. Moreover, these results also reveal that firm size and foreign ownership affect positively firm's propensity to both direct and indirect export, while the use of foreign technology significantly affects only firm's propensity to export directly. Firms that use foreign technology are more likely to engage in direct exporting. Finally, these results suggest that larger firms and/or firms with foreign ownership (partly/wholly owned by foreign parties) are more likely to engage in both direct and indirect exporting. Comparing the results based on WBES 2003 dataset reported in Table 4 with the results based on WBES 2012 dataset reported in Table 6 it can be noted that major difference is the significance of new product introduction in the more recent set of estimates. This may suggest that Chinese firms are moving away from process innovation toward product innovation, which makes them more similar to the firms from advanced economies where product innovation plays a more important role than process innovation.

Table 6. Innovation and Propensity to Export (Direct and Indirect) in 2012

Variable	Direct exports			Indirect exports		
	(1)	(2)	(3)	(4)	(5)	(6)
New Product	0.130*			0.356***		
	(0.078)			(0.079)		
Innovation Engagement		0.125***			0.397***	
		(0.130)			(0.144)	
R&D			0.287***			0.322***
			(0.076)			(0.078)
Firm Size	0.285***	0.288***	0.274***	0.067**	0.070**	0.055*
	(0.030)	(0.030)	(0.030)	(0.029)	(0.029)	(0.029)
Firm Age	-0.002	-0.003	-0.001	-0.001	-0.001	-0.004
	(0.004)	(0.004)	(0.005)	(0.004)	(0.005)	(0.005)
Foreign Technology	0.261***	0.294***	0.239***	-0.009	0.075	0.047
	(0.087)	(0.084)	(0.085)	(0.093)	(0.091)	(0.091)
Foreign Ownership	0.817***	0.820***	0.826***	0.251*	0.255*	0.259*
	(0.126)	(0.126)	(0.126)	(0.137)	(0.135)	(0.137)
Number of observations	1630	1635	1625	1630	1634	1625
R^2	0.115	0.116	0.123	0.025	0.017	0.023

Notes: 1. Innovation activity is measured by new product introduction (Yes/No); innovation engagement (Yes/No among the sum of 8 innovation categories); R&D (Yes/No); 2. Control variables include: firm size (the log of the number of full-time employees); firm age; foreign technology or not (whether the firm has foreign technologies); foreign ownership or not (whether the firm is partly/wholly owned by foreign parties).
Source: own study.

In Table 7 we report our estimation results for 2012 in which we distinguish between specific types of innovation: product innovation, process innovation and managerial innovation for direct and indirect exporting, respectively. The particular columns of Table 7 are the counterparts of the columns in Table 5.

In columns (1)-(2) of Table 7 we report results for direct and indirect exports, respectively, where we include the dummies for both product and process innovations, having controlled for other firm characteristics. It turns out, however, that in contrast to the results reported in column (1) of Table 5 only the measure of product innovation activities is significant at the 1% level and displays the expected positive sign, while the measure of process innovations is not significant in the case of direct and indirect exports.

In columns (3)-(4) and (5)-(6) we report results for direct and indirect exports, respectively, obtained separately for product and process innovations. These estimation results confirm our findings from columns (1) and (2) for the product innovation which remains significant at the 1% level in the case of both direct and indirect exports. However, our estimation results show that the product innovation variable remains not significant only in the case of direct exports, while in the case of indirect exports it is significant at the 1% level and displays the expected positive sign.

Finally, in columns (7)-(8) we report results obtained for managerial innovations for direct and indirect exports, respectively. Our measure of managerial innovations is significant only at the 5% level and displays the expected positive sign only in the case of indirect exports while in the case of direct exports it is not significant.

Table 7. Product, Process and Managerial Innovation and Propensity to Export (Direct and Indirect) in 2012

Variable	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Product Innovation	0.129***	0.147***	0.103***	0.148***				
	(0.042)	(0.046)	(0.032)	(0.033)				
Process Innovation	-0.028	0.001			0.033	0.068***		
	(0.030)	(0.031)			(0.023)	(0.022)		
Managerial Innovation							0.058	0.114**
							(0.049)	(0.05)
Firm Size	0.286***	0.062**	0.282***	0.062**	0.285***	0.064**	0.285***	0.066**
	(0.031)	(0.029)	(0.030)	(0.029)	(0.030)	(0.029)	(0.030)	(0.029)
Firm Age	-0.002	-0.001	-0.002	-0.001	-0.003	-0.001	-0.003	-0.001
	(0.004)	(0.005)	(0.004)	(0.005)	(0.004)	(0.005)	(0.004)	(0.005)
Foreign Technology	0.221**	-0.026	0.221**	-0.026	0.276***	0.044	0.281***	0.057
	(0.089)	(0.093)	(0.089)	(0.093)	(0.085)	(0.092)	(0.085)	(0.092)
Foreign Ownership	0.831***	0.267*	0.822***	0.267*	0.813***	0.247*	0.813***	0.245*
	(0.127)	(0.137)	(0.127)	(0.137)	(0.126)	(0.135)	(0.126)	(0.135)
Number of observations	1635	1635	1635	1635	1635	1635	1635	1635
R^2	0.122	0.026	0.121	0.026	0.116	0.017	0.116	0.015

Notes: 1. In models (1) and (2), both product and process innovations are included, while in models (3)-(6), only one of them is included; 2. Innovation is measured by product, process and managerial innovations. Following the existing literature, the sum of responses to the questions: 'introduce new technology and equipment(s) for product or process improvements or not', 'introduce new product or new service or not' and 'add new features to existing products or services or not' is treated as product innovation; while, the sum of response to questions: 'introduce new quality control procedure in production or operations or not', 'introduce new managerial/administrative processes or not', 'provide technology training for staff or not', 'take measures to reduce production cost or not' and 'take actions to improve production flexibility or not' is treated as process innovation. The sum of responses to the questions: 'introduce new managerial/administrative processes or not' and 'provide technology training for staff or not' is treated as managerial innovation.
Source: own estimations performed in STATA 14.

The results from Table 7 for the year 2012 show that in contrast to the results from Table 5 for the year 2003 product innovations had positive and statistically significant effects on firm's propensity to direct and indirect export. It was also found that process and managerial innovations generate significant effects only in the case of indirect exports. This means that product innovation (i.e. introducing new technology and equipment(s) for product or process improvements, introducing new product or new service and adding new features to existing products or services) is a more important factor in direct exports of Chinese firms in 2012 than process innovation (i.e. introducing new quality control procedures in production or operations, introducing new managerial and administrative processes, providing technology training for staff, taking measures to reduce production cost and taking actions to improve production flexibility) and managerial innovation (i.e. introducing new managerial/administrative processes and providing technology training for staff).[7] Firms that engaged in

[7] There are overlaps between the two as managerial innovation is a part of process innovation, but we look at their impact separately.

product innovation were more likely to engage in both direct and indirect exporting while those that engaged in process and managerial innovations only in indirect exporting. Hence, comparing the results based on WBES 2003 dataset with the results based on WBES 2012 dataset it can be stated that product innovation has become a more significant contributor to firm's propensity to export than process innovation and managerial innovation.

In addition, the results obtained for 2012 confirm that firm size and foreign ownership have positive and significant impacts on a firm's propensity to both direct and indirect export, while foreign technology matters only in the case of direct exporting. The results suggest that a larger firm or a firm with foreign ownership (partly/wholly owned by foreign parties) is more likely to engage in both direct and indirect exporting. At the same time, a firm with foreign technology is more likely to engage in direct exporting.

Data for 2012 allows us also to study in a detailed way how product and process innovations are introduced and how these ways affect the probability of direct and indirect exports. In particular, we distinguished between innovations that were developed or adapted in house, developed in cooperation with suppliers, developed in cooperation with client firms, an own version of a product already supplied, an implemented idea from internal R&D, an implemented idea from an external source.

In Table 8 we report results obtained for the specification in which we studied the relationship between the probability of direct exporting and various ways in which product innovations were introduced.

Table 8. Ways of Introducing Product Innovations on Direct Exporting in 2012

Variable	(1)	(2)	(3)	(4)	(5)	(6)
Developed or adapted in house	-0.108					
	(0.087)					
Developed in cooperation with suppliers		0.163*				
		(0.085)				
Developed in cooperation with client firms			0.12			
			(0.08)			
Introduced own version of a product already supplied				0.109		
				(0.08)		
Implemented idea from internal R&D					-0.029	
					(0.084)	
Implemented idea from an external source						0.261***
						(0.084)
Firm Size	0.277***	0.271***	0.272**	0.279***	0.275***	0.267***
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
Firm Age	-0.003	-0.003	-0.003	-0.004	-0.003	-0.004
	(0.005)	(0.005)	(0.004)	(0.005)	(0.004)	(0.005)
Foreign Technology	0.308***	0.302***	0.312***	0.315***	0.315***	0.274***
	(0.087)	(0.087)	(0.087)	(0.088)	(0.086)	(0.088)
Foreign Ownership	0.840***	0.819***	0.812***	0.865***	0.851***	0.828***
	(0.131)	(0.131)	(0.132)	(0.132)	(0.131)	(0.131)
Number of observations	1441	1427	1427	1424	1436	1433
R^2	0.107	0.109	0.109	0.113	0.108	0.115

Source: own estimations performed in STATA 14.

The results from Table 8 reveal that developing a product innovation in cooperation with suppliers and implementing the idea from an external source are the only two ways of introducing product innovation that contributed significantly to the direct exporting of Chinese firms. Moreover, the statistical significance of the former way was only 10%, while of the latter it was 1%. These results suggest that cooperation and communication with external parties in terms of innovation constitute important ways of promoting direct exports of Chinese firms.

In Table 9 we report results obtained for the specification in which we studied the empirical relationship between the probability of indirect direct exporting and various ways in which product innovations were introduced.

Table 9. Ways of Introducing Product Innovations on Indirect Exporting in 2012

Variable	(1)	(2)	(3)	(4)	(5)	(6)
Developed or adapted in house	-0.016					
	(0.088)					
Developed in cooperation with suppliers		0.098				
		(0.088)				
Developed in cooperation with client firms			0.222***			
			(0.081)			
Introduced own version of a product already supplied				0.204**		
				(0.082)		
Implemented idea from internal R&D					0.019	
					(0.084)	
Implemented idea from an external source						0.383***
						(0.084)
Firm Size	0.057*	0.052*	0.051*	0.061**	0.055*	0.035
	(0.03)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
Firm Age	0.001	0.001	0.002	0.001	0.001	0.0001
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
Foreign Technology	0.09	0.099	0.107	0.085	0.104	0.032
	(0.093)	(0.095)	(0.094)	(0.097)	(0.093)	(0.094)
Foreign Ownership	0.247*	0.235*	0.206	0.266*	0.251*	0.219
	(0.139)	(0.140)	(0.14)	(0.141)	(0.14)	(0.141)
Number of observations	1441	1427	1427	1424	1436	1433
R^2	0.007	0.009	0.014	0.014	0.008	0.023

Source: own estimations performed in STATA 14.

In contrast to the earlier set of results for direct exporting reported in Table 8, the estimation results from Table 9 reveal that cooperation with client firms, the introduction of own version of a product already supplied and the implementation of ideas from external sources are three main ways of introducing product innovation that contribute significantly to the indirect exports of Chinese firms. The major difference between these two sets of results lies in the role of cooperation with client firms which points at the existence of the forward linkage compared to the role of cooperation with the supplier firms, pointing at the existence of the backward linkage in the case of direct exporting. Another important difference is the significant role of own version of already supplied products in the case of indirect

exporting. The main similarities include the statistically significant role of the implementation of an idea from an external source for both direct and indirect exporting and the lack of statistical significance of all other ways of introducing product innovations.

In Table 10 we report estimation results obtained for the specification in which we studied the empirical relationship between the probability of direct exporting and various ways in which process innovations were introduced.

Table 10. Ways of Introducing Process Innovations on Direct Exporting in 2012

Variable	(1)	(2)	(3)	(4)	(5)	(6)
Developed or adapted in house	-0.069					
	(0.088)					
Developed in cooperation with suppliers		-0.025				
		(0.083)				
Developed in cooperation with client firms			0.164**			
			(0.081)			
Introduced own version of a product already supplied				0.043		
				(0.085)		
Implemented idea from internal R&D					-0.053	
					(0.086)	
Implemented idea from an external source						0.185**
						(0.083)
Firm Size	0.281***	0.281***	0.277***	0.281***	0.283***	0.277***
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
Firm Age	-0.003	-0.004	-0.003	-0.004	-0.003	-0.003
	(0.004)	(0.004)	(0.005)	(0.005)	(0.004)	(0.005)
Foreign Technology	0.311***	0.333***	0.322***	0.309***	0.318***	0.288***
	(0.086)	(0.087)	(0.087)	(0.09)	(0.087)	(0.089)
Foreign Ownership	0.838***	0.829***	0.815***	0.834***	0.844***	0.846***
	(0.131)	(0.131)	(0.132)	(0.131)	(0.131)	(0.131)
Number of observations	1438	1426	1428	1426	1436	1433
R^2	0.109	0.112	0.114	0.111	0.111	0.115

Source: own estimations performed in STATA 14.

The estimation results reported in Table 10 show that cooperation with client firms and the implementation of ideas from external sources are the only two ways of introducing process innovation that contribute significantly to the direct exporting of firms. The major difference between these results and the results obtained for product innovations reported in Table 8 is the significant role of cooperation with client in contrast to the role of cooperation with the supplier firms that was significant in the case of product innovation. At the same time, these results are very similar to the results reported in Table 9 for product innovation in the case of indirect exporting.

Finally, in Table 11 we report estimation results obtained for the specification in which we studied the empirical relationship between the probability of indirect direct exporting and various ways how process innovations were introduced.

Table 11. Ways of Introducing Process Innovations on Indirect Exporting in 2012

Variable	(1)	(2)	(3)	(4)	(5)	(6)
Developed or adapted in house	-0.006					
	(0.089)					
Developed in cooperation with suppliers		0.059				
		(0.084)				
Developed in cooperation with client firms			0.255***			
			(0.082)			
Introduced own version of a product already supplied				0.020		
				(0.087)		
Implemented idea from internal R&D					0.101	
					(0.088)	
Implemented idea from an external source						0.354***
						(0.083)
Firm Size	0.058*	0.060*	0.053*	0.059*	0.054*	0.047
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
Firm Age	0.002	0.001	0.002	0.001	0.001	0.001
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Foreign Technology	0.102	0.119	0.118	0.100	0.099	0.022
	(0.093)	(0.094)	(0.094)	(0.097)	(0.093)	(0.095)
Foreign Ownership	0.246*	0.236*	0.211	0.243*	0.246*	0.239*
	(0.14)	(0.14)	(0.141)	(0.14)	(0.14)	(0.141)
Number of observations	1438	1426	1428	1426	1436	1433
R^2	0.008	0.009	0.016	0.008	0.009	0.022

Source: own estimations performed in STATA 14.

The results reported in Table 11 are very similar to the results reported previously in Table 10. In particular, these results show that the development of cooperation with client firms and the implementation of ideas from external sources are two main ways of introducing process innovations that contribute significantly to the indirect exports of Chinese firms. Therefore, in contrast to the results obtained for product innovations we do not find any differences with respect to the ways process innovations are introduced between direct and indirect exports.

CONCLUSIONS

In this article we studied the relationship between innovations and export performance of Chinese firms. Our analytical framework referred to the recent strand in the NTT literature based on the Melitz (2003) model. We treated innovations as a key element that can increase the level of productivity and focused on product and process innovations and intellectual property creation. We also analysed the role of foreign ownership and foreign technology. Our results indicated that the probability of exporting was positively related to product and process innovations, firm size, foreign capital participation and foreign technology. Moreover, our results suggest that there has been a shift from process to product innovation overtime. At the same time it is worth noting that product innovation is related either to external

sources, such as the links with clients and suppliers of intermediate inputs, or implemented ideas from external sources. Our study has reached different results and findings from other studies as it not only focuses on one of the largest emerging country-China and Chinese firms but also use unique dataset and distinguishes between different types of innovation which have yet been investigated in Chinese context, and the results and implications from this study are important for both policy makers and corporate managers.

Future efforts should be targeted at encouraging in-house innovations. Both firms and governments of various levels should work together to improve firms' capability of making in-house innovations. First, firms should coordinate their strategic assets and resources for innovation such as R&D personnel, capital, technologies and information and invest in developing R&D capability as innovation can not only promote exports but also enhance their overall level of competitiveness. Second, governments should work on establishing a stronger formal institutional environment which is able to provide firms with strong protection of intellectual property rights, an easier access to financing of innovation, a lower tax burden upon innovative firms, the higher quality of human resources to firms and more supportive policy packages to encourage in-house and independent innovations. Hence, future research relating to this topic should focus on the role of in-house innovations and their effects. Furthermore, for government policy makers the building of formal institutional constructs such as effective and efficient national innovation system is very important, as it can promote innovation of firms and thereby their export performance. In this regard, building external networks between firms, universities, R&D institutes, governments and financial resource providers is quite necessary and fundamental for firms in strengthening their innovation capability and hence export performance. As for corporate managers, they should actively build and participate in networking activities with other parties in the national innovation system and cooperate with other players in the game of innovation, such as other firms, universities, R&D institutes, governments and financial resource providers in order to enhance their promoter of export, in this case, their innovation capability.

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Factors Driving Foreign Women Entrepreneurship in China

Kit Shun Ng, Ping Ping Fu

ABSTRACT

Objective: The objective of this article is to identify factors that drive and conditions that affect foreign women entrepreneurs in China. The emphasis is on the commonalities and differences between these women and women entrepreneurs in Western developed countries as reflected in the literature.

Research Design & Methods: The study was designed to include both qualitative and quantitative data to allow better understanding of the topic. Interviews with foreign women entrepreneurs were first done to gain practical field insights which were then used with the information from the literature to develop the questionnaire for the survey for quantitative data.

Findings: The findings from the interviews and the survey from a very small sample show the key differences lie in internal factors like motivation and family-business orientation, but there are also similarities in terms of external characteristics, such as business nature, business size, financing source, etc. between foreign female entrepreneurs in China and those represented in studies. And the key challenges and learning reported by foreign female entrepreneurs in China are both related to culture.

Implications & Recommendations: The article intends to fill the gap by offering some insights into foreign women entrepreneurs in China. Broader and in-depth empirical studies on this subject are needed to verify these initial findings, and stimulate interests in this important but neglected field.

Contribution & Value Added: The originality of this work lies in contributing to some understanding that the gender plays role in entrepreneurship across cultures, particularly in China.

Article type: research article

Keywords: entrepreneurship; women entrepreneur; female entrepreneur; China; foreign female entrepreneur; cross culture entrepreneurship; cross border/country entrepreneurship

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INTRODUCTION

Recent years have seen a significant increase in the numbers of entrepreneurs all over China thanks to the Chinese government's promotion of entrepreneurial spirit and active support for entrepreneurial endeavours. Globalisation accompanied by high levels of mobility also allows people to move where new opportunities are available. As a result, many people from developed countries are moving to emerging markets like China to seek new opportunities. However, historically, most cross-country entrepreneurship studies concentrated on immigrants from developing countries who moved to developed countries to seek opportunities due to external factors to survive.

Women entrepreneurs are globally recognized as the key engine for economic development and innovation (Davis & Abdiyeva, 2012; Ascher, 2012; Noguera, Alvarez, & Urbano, 2013; De Vita, Mari, & Poggesi, 2014; Yadav & Unni, 2016). Acs (2006), who chaired the research committee of Global Entrepreneurship Monitor (GEM) for two years, found that entrepreneurship driven by unmatched or unexploited business opportunities has a positive and significant effect on economic growth (Acs, 2006). GEM started to publish special topic report on women entrepreneurship (GEM's Women Report) since 2005, and Mastercard also released its inaugural Index of Women Entrepreneurs (MIWE) in 2017. The launch of these special global reports on women entrepreneurship indicates the growing importance of women in entrepreneurship and economic development in recent years.

However, the literature review has shown that women entrepreneurship research still has a long way to go. Scholars are calling for more research on this subject in emerging countries and the cross-country aspect (e.g., Minniti & Naudé, 2010; De Vita *et al*., 2014; Yadav & Unni, 2016; Elston & Weidinger, 2015). Studies have identified different factors that influence women's decision to go into entrepreneurship. Ascher (2012) provided a conceptual model which consists of factors including motivation, demographics and family, social and economic environments, education and unemployment (Ascher, 2012). The latest Women's Entrepreneurship 2016/2017 report on Global Entrepreneurship Monitor (GEM) also found that gender gaps in entrepreneurship activity still persist in many countries (including China), regardless of the economic developmental stage (Kelley, Baumer, Cole, Dean, & Heavlow, 2017), and research on women entrepreneurship has been neglected (Ascher, 2012). And there are a number of unique characteristics of women entrepreneurs, such as small business, industry nature, difficulties in accessing financing and social capital, (Minniti & Naudé, 2010; Davis & Abdiyeva, 2012; Lee & Marvel, 2014) that are worth exploring. In China, in spite of the booming entrepreneurial activities and a more narrow gap between genders, women are still comparatively less active in entrepreneurship there (Kelley *et al.*, 2017). The number of Chinese women entrepreneurs in China only account for roughly 20% of the total number of Chinese entrepreneurs (Fan, 2012). There has also been little research on Chinese women entrepreneurship, let alone foreign women entrepreneurs in China.

This article intends to get into this line of research by taking a mixed method approach to identify factors that drive and conditions that affect foreign women entrepreneurship in China. We will use interview data to gain the insights and then use qualitative data and literature to develop the survey instrument to collect quantitative data from a broader sample in order to compare the characteristics of foreign women entrepreneurs in China and those studied in developed countries.

LITERATURE REVIEW

Research on women entrepreneurship was particularly neglected in the past (Ascher, 2012). However, in recent years, there has been an increasing number of research studies examining women entrepreneurs (Lee & Marvel, 2014; Welsh, Kaciak, & Thongpapanl, 2016). Yadav *et al*. (2016) reviewed 185 papers published in 12 well-established entrepreneurship journals about women entrepreneurship between the 1900s and 2016 and found that this domain was not a significant area of research until late 1990s or even early 2000s. Despite this faster growth in women entrepreneurship studies over the last two decades, the authors found that there is still a long way to go in terms of building a strong theoretical base for research in this area (Yadav & Unni, 2016).

Besides, past studies on women entrepreneurship were conducted mostly in developed countries (Yadav & Unni, 2016), so scholars call for more research studies on women entrepreneurs from emerging countries (De Vita *et al.*, 2014; Yadav & Unni, 2016) including China (Elston & Weidinger, 2015). A recent literature review found that even women entrepreneurship studies were restricted i.e. they were conducted within some national boundaries (Yadav & Unni, 2016). Therefore, Welsh *et al*. (2016) recommended more quantitative and cross-cultural investigations across countries. Minniti *et al*. (2010) highlighted the importance of knowing the differences between and commonalities across individuals and across countries to deepen the understanding of female entrepreneurship (Minniti & Naudé, 2010).

Most cross-cultural studies on women entrepreneurship, such as the literature review by De Vita *et al*. (2014), mainly concentrate on female immigrants from developing countries who were driven by financial factors to startup businesses in developed countries to survive. However, the research lessons so learnt might not necessarily be applicable to China where foreigners mostly come from developed countries. According to the China census of 2010, the Koreans, the Americans and the Japanese are among the top three groups of foreigners in China, in addition to those from Hong Kong, Macau and Taiwan. The total number of people from developed economies living in China is over 67% ('6th China census statistic' 2010). Clearly, there exists a knowledge gap and an opportunity to understand more about women entrepreneurship from a foreigner's point of view in the cross-cultural perspective in the emerging China.

Yadav and Unni (2016) also studied 19 literature review articles published on women entrepreneurship from 1986 till May 2016. They pointed out a need to study the impact of factors like industry, family, culture and goal orientation and other external factors. Further, they observed that entrepreneurial processes such as venture financing, networks, firm performance, growth strategies, success factors and individual characteristics including intentions, motivations, decision models, etc. and the social forces impacting differences in gender behaviour among entrepreneurs also need to be investigated (Yadav & Unni, 2016).

Motivational Factors for Women Entrepreneurs

Past research suggests that women from developed countries are motivated by pull (or opportunity-driven) factors, such as independence and autonomy and passion, whilst women from emerging countries tend to be pushed or forced into entrepreneurship (Davis & Abdiyeva, 2012). Bruni *et al*. (2004) combined best-known classifications to draw up a typology of female entrepreneurs, namely 'aimless' young women, 'success-oriented'

young women, 'strongly success-oriented' women, 'dualists', 'return workers', 'traditionalists' and 'radicals' (Bruni *et al*., 2004) (Table 1.)

Table 1. Typology of profiles of female entrepreneurs

TYPE	INCENTIVES
Aimless	Young females who enter entrepreneurship as a result of unemployment
Success oriented	Young women who perceive entrepreneurial activity as a long-term strategy
Strongly success oriented	Women who perceive entrepreneurship as an opportunity for self-fulfillment or as a means to overcome the 'glass ceiling' phenomenon
Dualists	Females seeking flexibility to balance their family and job obligations
Return workers	Women who left their jobs to care for family duties and are still motivated to self-fulfillment outside their families
Traditionalists	Women who have a strong family entrepreneurial tradition background
Radicals	Women who initiate introducing more pro-female tendencies in society

Source: (Ascher, 2012).

These authors also identified three main types of barriers to women entrepreneurs:

1. socio-culture status of women's primary role are family and domestic responsibilities;
2. access to social capital like network of information or assistance due to gender exclusion; and finally;
3. access to capital (Bruni *et al*., 2004).

Ascher (2012) argued that no single motivation factor could drive women into entrepreneurship, and proposed a conceptual model that consisted of factors that may influence women to enter entrepreneurship, including motivation, demographic and family, social and economic environments, education and unemployment (Figure 1).

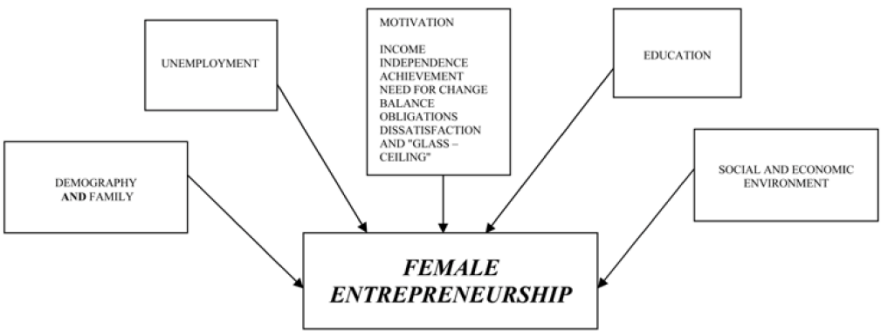

Figure 1. Ascher (2012)'s conceptual model
Source: (Ascher, 2012).

Ascher (2012) pointed out that past studies showed that women entrepreneurs tend to emphasize intrinsic and non-financial goals, such as independence and work-family balance, whilst men are more likely to be motivated by financial rewards. He also identified obstacles to women entrepreneurs at different stages of entrepreneurship processes, mainly the absence of benchmarking possibilities, lack of experience, lack of social capital and financial capital, lack of time due to family obligations, risk perception, gender discrimination to external financing, and gender stereotype issue, etc. Minniti and Naude (2010) also discussed

that the lack of experience, lack of financial capital and start-up cost financing are the key issues and constraints to women entrepreneurs in developing countries. They pointed out that whereas there is not much difference in individual entrepreneurship motivation by entrepreneurial ability and the relative rates of return across developed and developing countries, social networks play a more important role in developing countries.

The words 'family' and 'women' are very closely related to each other even when it comes to entrepreneurship. There is a strong link between female entrepreneurship and the prevailing family systems (Welsh *et al*., 2016) in which identity enactment is observed by embedding habitual routines into their business practices (Lewis, Ho, Harris, & Morrison, 2016). Researchers have concluded generally that women have different aspirations and non-pecuniary motives for pursuing entrepreneurship, as well as a greater need to gain flexibility for balancing work and family responsibilities (Minniti & Naudé, 2010). Debates on work-family life balance are widespread in the contemporary society. A common view is that women's primary role is running the home and reproduction (Gherardi, 2015). Given the dual responsibilities of women, the work-family conflict constituted a key barrier to the success of women-owned businesses (Welsh *et al*., 2016).

Combining different reviews and literature reviews, we identified the following four characteristics to be universally common for women entrepreneurs and the businesses they run: (1) women tend to run smaller businesses with few employees; (2) their businesses mostly concentrate on retail, services, hospitality, and so on; (3) they experience higher challenges while accessing or getting formal financing; and (4) they lack professionally supported networks and business social capital (Minniti & Naudé, 2010; Davis & Abdiyeva, 2012; Lee & Marvel, 2014).

Women's Entrepreneurship Report (WER, 2016/2017) of Global Entrepreneurship Monitor (GEM) provided in-depth quantitative insights into the global growth and characteristics of female entrepreneurship by grouping countries based on their economic development stages. WER 2016/2017 report found out that the highest participation in entrepreneurship among women was among 25-34 and 35-44 year olds. A similar phenomenon was reported in other reviews (Ascher, 2012). The report also presented a more detailed breakdown in terms of economic development levels. It found that around 60% women are engaged in the retail sector in factor-driven, factor-efficiency transition and efficiency-driven economies, whilst over 50% of women in innovation-driven economies dominate over men in the sectors of government, health, education, social services and accounting. Globally, women entrepreneurs are less likely to start businesses in the Information and Communication Technology (ICT) sector as compared to men (Kelley *et al*., 2017). The education level of women entrepreneurs is generally high, according to the report. Especially, in more developed countries such as North America and Europe, women entrepreneurs have the highest education rates or are even more highly educated than men entrepreneurs (Kelley *et al*., 2017). Nevertheless, countries are different. While these insights serve as good references, studies on female entrepreneurship in China are still essential to understanding what drives women to run their own businesses and how they do so in their country.

Thus, this article seeks to identify both internal (family-business orientation, goal orientation, motivation, etc.) and external (financing, business performance, success factors, etc.) factors that impact female foreigners coming to China to start businesses. The emphasis is on commonalities and differences as compared to other contemporary studies

and reviews. The issues motivating foreign women entrepreneurs to select China to startup their businesses will also be examined. The overall goal is to provide preliminary understanding of women entrepreneurship in the cross-nation and cross-cultural context in China for future scholars conducting further in-depth studies.

MATERIAL AND METHODS

Reviewing gender and entrepreneurship literature published in 18 journals over a 30-year period, Henry *et al*. (2016) identified the major methodological trend in this field. In the process, they suggested that future researchers of this subject should move from the traditional quantitative approach to a post-structural feminist approach involving more qualitative and innovative methodologies such as in-depth interviews, life histories and case studies (Henry, Foss, & Ahl, 2016). Patterson *et al*. (2012) also endorses the need for applying a qualitative methodology to research into gender entrepreneurship (Patterson, Mavin, & Turner, 2012). The present article adopts a mixed approach using interviews and online surveys to offer discovered insights into foreign women entrepreneurs in China. Specifically, questions we ask include: What are the factors that drive them into entrepreneurship in China? What are the conditions that make them startup a business in China? What are the key challenges and barriers to starting up and doing business in China? And what did they learn from doing business in China?

Since there is very limited precedent research on foreign women entrepreneurs in China, exploratory interview at the beginning enables us to identify what is important in the practical field. Together with the initial insights from the interview findings and the framework identified from the literature reviews, the survey is then designed to allow more practical relevance. Thus, our research methodology begins with interviewing female foreign entrepreneurs in China, mainly Shanghai, followed by an online survey with questions designed based on the interviews and the literature review.

Interviews

According to the latest census statistics of the Chinese government (6th China census statistic, 2010), most foreigners live in the Tier 1 big cities, such as Guangdong province, Shanghai and Beijing. Though Elston and Weidinger's empirical research found internationality to have a negative impact on entrepreneurial intention in the highly internationalised Shenzhen and Hong Kong as compared to rural China due to higher competition for resources (Elston & Weidinger, 2015), language and cultural barriers suggest foreigner entrepreneurship activities should mostly concentrate in these Tier 1 cities.

Therefore, foreign women entrepreneurs in Shanghai were invited to join the interview given the first author's immediate access and personal network to foreign friends and many women entrepreneur community networks in Shanghai. The interviews were done over the phone, lasting an hour and a half on average. The interviews were recorded with the consent of the interviewees.

Survey

Following the interview, the survey with open-ended questions enabled us to reach a broader target group in a shorter period of time. The design of the survey questions leveraged the existing literature as well as the aforementioned interview findings. In order to

capture descriptive answers and narratives for qualitative analysis and securing more in-depth understanding of the subject, almost half of the survey was designed to allow open answers. Options were provided for those characteristics aimed at cross comparisons.

The survey was comprised of three parts. The first part of the survey sought to identify internal and external factors. As for internal factors, Ascher's (2012) conceptual model on motivational factors was adopted.

The following motivation factors were used in the survey: (1) Could not find a job; (2) Generate income; (3) For self-achievement; (4) Need for a change; (5) Pursuit of autonomy and independence; (6) Motherhood obligation; (7) Flexibility to balance family and work; (8) Dissatisfaction with the previous work environment; (9) Reaching the 'glass ceiling' in the present or previous company and (10) Family business or family entrepreneurial tradition. The social and economic environment was not included in the scope of the study. However, family-business orientation and goal-orientation questions were also added based on the initial interview findings.

Key challenges, business nature and size, industry sectors, financing sources, the start-up process and key success factors were the external factors explored in the survey questions. Barriers and challenges identified based on the literature review were included in the survey, including the examination of the choice options (1) Lack of experience and skills; (2) Difficulty in acquiring investment or funding; (3) Lack of business social capital or network; (4) Family obligations and lack of time; (5) Gender discrimination; (6) Cultural differences; (7) Business scalability and (8) Talent attraction and retention.

The second part of the survey focused on how starting a business in China might be different from other countries and if those differences offer any learning or innovation to female entrepreneurs outside China. This part consisted mainly of open questions to allow more qualitative information. The last part was about their personal background and the reasons behind their coming to China, which offer important details to help readers better understand their intention and motivation or choices they had to make during their entrepreneurship decisions.

Our survey also tried to adopt Bruni *et al*. (2004)'s typology framework by identifying the top three reasons and motivations for women to start businesses, the reasons behind coming to China, the top three challenges faced, as well as personal background such as whether they had a job before the startup business, their age, marital status and children.

Study Sample

The samples for both interviews and surveys were pooled through personal networks and accessible women entrepreneurship communities in China. Four foreign female entrepreneurs were invited from different women entrepreneur communities in Shanghai. A total of 24 different female foreign entrepreneurs participated in the online survey through women entrepreneur community network.

Interviewee 1 (Itv-1) was an American who came to Hong Kong to study for a degree in Chinese. She was later hired by a big American multinational consumer goods company (P&G) in China in 1991. She worked for big multi-national corporations until 2014 and then decided to startup her own business offering consulting services in China. She had been in China for nearly 30 years. She could speak fluent Chinese.

Interviewee 2 (Itv-2) was an Australian who followed her husband's job to move to China in 2014. She had worked in Australia in the HR field and then worked in her husband's company for about a year after she had moved to China. Then she left the job

when she had her first baby. In 2016, she decided to do something on her own and started a project. The project focused on building a community network for women entrepreneurs in China where they learn and support each other as a group. She has been running this network for about 1.5 years now.

Interviewee 3 (Itv-3) was a Korean American. She was born in South Korea but was educated and grew up in the United States. She had followed her husband's job relocation and had lived and worked in different countries before China, such as Norway, South Korea and Singapore with Norway being the longest, about 14 years. She had her own business both in Norway and Singapore. She started her business again in China in 2016. The business is an online digital training content platform for senior care services. The business idea was actually conceived in Singapore where she had stayed for 1.5 years and registered her company there with a similar idea for the hospitality industry.

Interviewee 4 (Itv-4) was a young Finnish lady aged 31. She was born in China, However, having grown up and educated in Finland, she was raised with western values and culture. She came back to China in 2015 to run her family business. She took over her father's business 100%, as CEO and Board director, right from day one after she had come back. Since then, she was running the company like her own business. The company was in the traditional manufacturing industry with over 20 years of history in China. Their main clients were from the construction sector.

RESULTS AND DISCUSSION

A total of 28 foreign entrepreneurs from 15 countries, including the four who were interviewed, and 24 participated in the survey. Out of 28 participants, 24 were from developed countries, four from South Africa, the Philippines, Ukraine and Mexico. The four interviewees and the majority (83%) of the survey participants were located in Shanghai, but a few were based in other cities, including Beijing and Shenzhen.

Typology Highly Associates With 'Strongly Success-Oriented' and 'Success-Oriented'

By examining the backgrounds and motives of the interviewees, we found that the four interviewees fit into four of seven profiles identified by Bruni *et al*. (2004) as shown in Table 1 in the literature review. Each interview reported a different incentive to join entrepreneurship.

Itv-1 is obviously a 'strongly success-oriented' and 'radical' woman. Her motivation to startup her own business was 'I decided not to generate money for somebody else'

Itv-2 is both a 'return worker' and a 'radical' because she had left her career in her home country to follow her husband to China and left her job for her first baby. After the first baby had been born, she initiated a community network in support of female entrepreneurs as her future business.

Running a community platform for women entrepreneurs in Shanghai, Itv-2 also shared her observations concerning many female foreign entrepreneurs in her community who resonated entrepreneurial typologies such as 'return workers', 'strongly success-oriented' and 'dualists'.

> '…people have moved into wanting to run their own business for different reasons. Some of them were like me, in that they had followed their partners to

> Shanghai because the partners got work here. So they had to leave their own careers back in their home country and come here and try to do something else. Some people were following a dream that they always had, and found a perfect opportunity to follow that dream to start a business. Some people felt a bit lost that they didn't' have a self-identity after they left the corporate role, so they were trying to form a new identity for themselves. Some people just wanted a change of career. And there were others…they were mothers who didn't fit into the corporate structure anymore…'

Itv-3 is a 'return worker' and a 'strongly success-oriented' woman who had also left her career and accompanied her husband to many countries. However, in each country, she started up her own business.

Itv-4 is an obvious 'traditionalist' who came back to China to take over her family traditional business. She also wants to startup her own business in the future.

By mapping the survey participants' motivation, the reason for coming to China, the prior job status (before China), age, and education, the survey showed that a majority of the participating female foreign entrepreneurs belong to 'strongly success-oriented' and 'success-oriented', with just a couple of them being 'return worker' or 'dualist' or 'traditionalist'. Detail findings of each of these surveyed factors are discussed in details as follow.

Family-Work Balance Is Not the Major Motive

Studies have suggested that women tend to put more emphasis on intrinsic goals or seek non-financial goals such as independence and work-family balance (Ascher, 2012). Itv-1 mentioned explicitly that she '*could be earning more money by working for someone else's company*', but she chose to run her own business because she loves what she does now and the work variety related to her own business. And an interesting comment by Itv-3 about the reason behind female entrepreneurs' desire to start a business is out of goodness to help the society was that:

> 'Many female entrepreneurs also start businesses out of the goodness of their hearts, idealism, wanting to help the society or something of that nature. And they may not necessarily think it through, whether it has the possibility of becoming a successful business.'

The survey confirms a similar finding that self-achievement and autonomy and independence stand out as the most important motivating factors, accounting for 65.2% and 52.5% respectively (Table 2).

While contemporary studies argue about dual responsibility and family factor as motivation for women entrepreneurship and a potential obstacle to their success, both our interview and survey however indicated differently, that 'work-family balance' and 'motherhood obligation' are among the least relevant factors. The interview reviewed that only one interviewee out of the four has this tendency of entrepreneurship enablement through family and motherhood responsibility.

The survey confirms that these two factors are not among the top 3 key motivation factors to enter entrepreneurship (Table 2). A half of them did not see any challenge of family-work balance. This finding was consistent with the view of the majority, who did not see 'family obligation and lack of time' as their major challenges (Table 5). In addition, more than

45% took business as more important than family. This result is different from the previous finding that women tend to seek work-family balance or flexibility as the motivation or goal to become an entrepreneur (Ascher, 2012; Lee & Marvel, 2014). This seems to be due to the fact that most of the foreign women entrepreneurs who answered that these factors are least relevant, were still single (over 52%) and did not have any children (over 78%).

Table 2. Key priority of motivation to startup a business

Key Priority	1	2	3	N/A
Could not find a job	2	1	3	18
Generate Income	8	3	5	8
Self-achievement	15	3	5	1
Need for Change	5	4	4	11
Autonomy and independence	12	2	5	5
Motherhood Obligation	2	1	2	19
Flexibility to balance Family and Work	2	1	7	14
Dissatisfaction with present or previous job	5	2	3	14
Dissatisfaction with previous work environment	4	2	5	13
Reaching “glass ceiling” in present or previous company	3	3	2	16
Family business or family entrepreneurial tradition	2	1	2	19
Other	4	1	0	19

Source: own study.

Close to 74% of the participants did not select ‘could not find a job’ among their top 3 motivation factors. This echoes the findings of the GEM’s WER 2016/2017 report. According to the report, women entrepreneurs from developed countries are not factor-driven but opportunity driven. This also is consistent with the reason cited that their coming to China was to ‘startup a new business’ or ‘seek job opportunity’; over 62.5% in total (Figure 2).

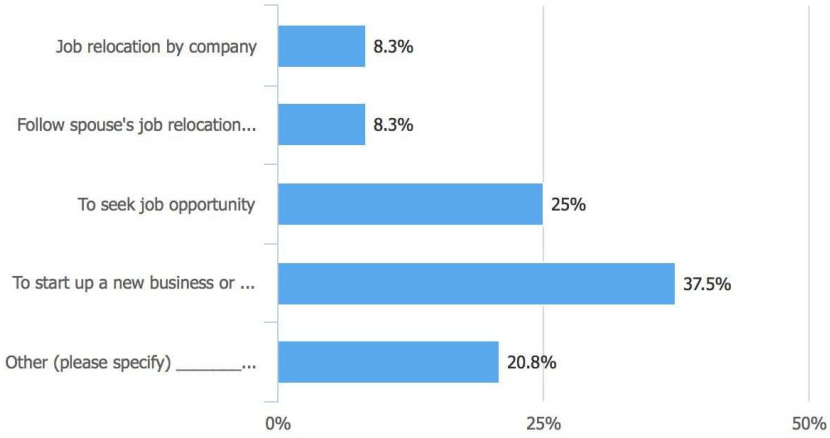

Figure 2. Reason to come to China
Source: own elaboration.

Mostly More Senior, Highly Educated and Have Working Experience Prior China

About 75% of the survey participants had jobs (54.2%) or were entrepreneurs (20.8%) prior to their coming to China, similarly to the four interviewees. Specifically in the survey, of those who came to China to 'seek job opportunity' and 'startup a new business', more than a half of them had had jobs or were entrepreneurs before coming to China; this accounted for over 88% — especially those that had come to China for the purpose of starting up a new business (Figure 3), showing that foreign women entrepreneurs in China are more experienced. Over 66% of them were middle or senior managers before coming to China to startup businesses.

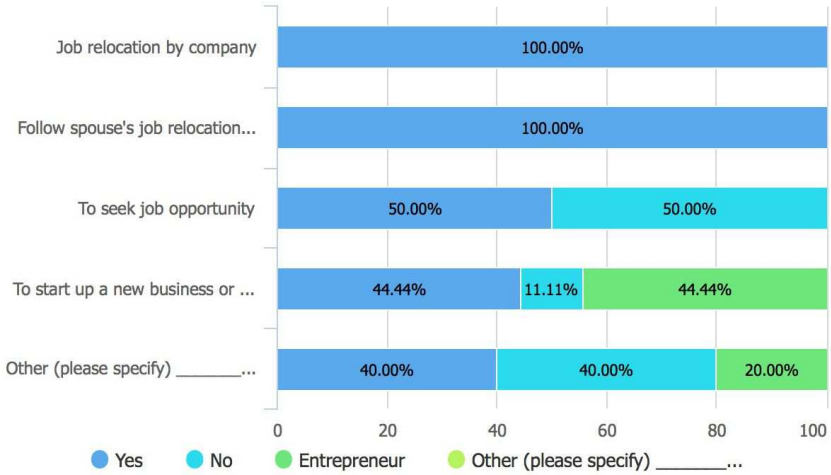

Figure 3. Prior employment status vs. reason to come to China
Source: own elaboration.

The age range of the interviewees is 31 to 62 years old. The result of the survey showed that the age range of 25-35 prevailed amongst those who had originally come to China to seek job opportunities. However, the age range of those who had come to China to startup a new business was more diverse, but the majority were 36 to 55 years old (Figure 4), i.e., they were older than the respondents cited in GEM's WER 2016/2017 report.

All four interviewees are highly educated women; they either have a bachelor's or a master's degree. The survey respondents confirmed the same. The survey results show that over 91% of them have a diploma or above, over 83% are either at an undergraduate or master's level. A similar situation was found with many other research findings where female entrepreneurs are highly educated or relatively highly educated (e.g., GEM WER 2016/2017 report; Ascher, 2012; Lee & Marvel, 2014). Apparently, foreign women entrepreneurs in China tend to be highly educated, more mature and have more experience.

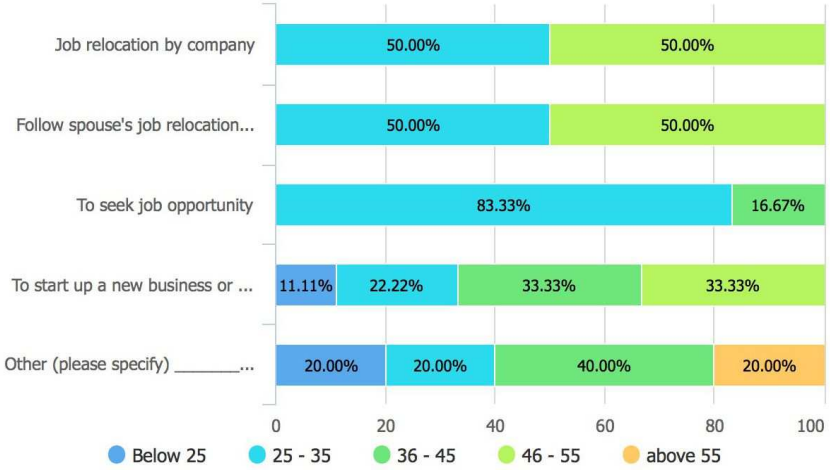

Figure 4. Age vs. Original Reason to come to China
Source: own elaboration.

Industry Sectors are the Same for Female Entrepreneurs Across Countries

Although four of the interviewees were working in different industries, three are actually in the service sector, with only a small number of employees. Their challenges lay mainly in the difficulty to scale up because of the specific business nature. The fourth was in the traditional male-dominated manufacturing sector with about 50 employees, but hers was a family inherited business, so does not reveal her real interest in running the business. In fact, she did not see herself to be running that business for long. If given a chance, she would like to have her own business exploring future lifestyle of community, living and housing.

The business natures of these four foreign women entrepreneurs are in line with the findings of existing studies and reviews, that women tend to run smaller businesses (De Vita *et al*., 2014) and are mostly in service sectors, especially in retail and healthcare sectors (Davis & Abdiyeva, 2012; De Vita *et al*., 2014; Lee & Marvel, 2014; Li *et al*., 2017). Our survey results backed up these findings. Most of the businesses of our survey respondents were in professional and personal services (over 41%) and then followed by the healthcare (16.7%) and retail (8.3%) sectors. Scholars have come up with a variety of arguments to explain this phenomenon, namely education, risk-averseness and life quality or the preference to balance family and business (Lee & Marvel, 2014; Gomes, Santana, Araújo, & Fontes-Martins, 2014). Although the issue requires further study, it does appear that these characteristics are inherent to women entrepreneurs no matter where they are.

Scalability Issue and Most of Them Are Early Stage Startup Businesses

All our interviewees mentioned the challenge of business scalability. Itv-3 described her observation of regular foreign women entrepreneurs in her network and had a similar conclusion. She pointed out that their business is usually smaller in scale and difficult to scale up either because of the business nature or the difficulty to find local partners; most of them are either in fashion, food and beverage, consulting or coaching, types of soft business. Itv-1 said 'most female foreign entrepreneurs do not build business to scale or

in a long term. It is usually more likely that they have something to occupy their time with while here, but not to pay the rent'. On the other hand, Itv-4 noticed from her entrepreneurs' network that local Chinese women entrepreneurs also tend to run smaller businesses and they get directly involved in detailed operations.

Our survey outcome is also in line with the observation and finding of the interviewees and those reported by other studies. They noted that female foreign entrepreneurs tend to run smaller businesses. The majority of their businesses have 10 or fewer employees (over 87%) with self-employed dominating at 45.8%. Besides, 45.8% of their business performance has an annual revenue of less than USD 10,000 and overall, more than 91% of their businesses have less than USD 500,000 annual revenue; further, professional services, retail and technology sectors have the highest annual revenue (Table 3).

Table 3. Industry Sector vs. Annual Revenue

Revenue	Education	e-Commerce /Internet	Engineering	Financial Services	ICT	Healthcare	Manufacturing	NGO/NPO	Personal Services	Professional Services (consult…	Technology Innovation/AI/Big D…	Retail	Other
<USD10,000	1	1				4	1	1	1	2			
>USD10,000									1	2			1
>USD50,000										2			
>USD100,000										**1**	**1**	**2**	**1**
>USD500,000										**1**			
>USD1 million													
>USD10 millions													**1**
>USD100 millions													
>USD1billion													

Source: own study.

Only two businesses have over USD 500.000 annual revenue and they were established 17 or more years ago. Most of them with business size less than USD 500.000 were early stage businesses because over 81% of these businesses were established only three years ago or less than that.

Opportunity and Entrepreneurship Environment in China Are Key Drivers

This could possibly be explained by the fact that women entrepreneurs got the encouragement to startup a business in China only in recent years. This was possible due to the entrepreneurial spirit and a favourable environment driven by the Chinese government since 2014. Indeed, all of the interviewees explicitly mentioned about the greater opportunity due to the market size and the advanced mobile technologies, as well as very strong entrepreneurship spirit in China. The survey results also indicated similar views that most foreign women entrepreneurs come to China to startup businesses because of greater opportunities and the entrepreneurial business environment. This accounts for a total of 62.5% (Figure5).

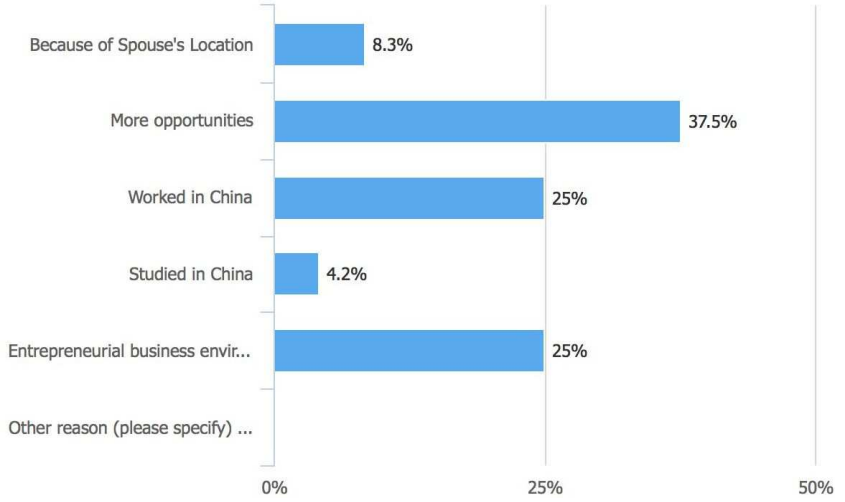

Figure 5. Reason to startup a business in China
Source: own elaboration.

Moreover, over 83% of them even confirmed that they would recommend their female foreign friends to start a business in China. The huge market opportunity was described by almost all of them as the key reason for this recommendation.

Funding Sources and Barriers Appear to be Common Internationally

Funding is critical for any new start-up business. Our survey has found that 'personal saving' is the number one funding source followed by 'family and friends', whilst 'bank loan' and 'VC/PE' are least considered as startup funding (Table 4).

Table 4. Funding Source

Finding Sources	Priority					
	1	**2**	**3**	**4**	**5**	**N/A**
Personal Saving	**18**	1	1	2	2	0
Family and Friends	1	**6**	2	2	6	7
Bank Loan	2	1	1	2	2	**16**
VC / PE	3	1	0	4	2	**14**
Other	3	0	1	1	3	**16**

Source: own study.

This is consistent with most research and literature review findings that women tend to use personal savings or borrow from family and friends instead of seeking a formal external financial source to startup a business (Gomes *et al.*, 2014; Lee & Marvel, 2014; Li, Zhang, & Yang, 2010). This is possibly because women face more difficulties in accessing external financing or they simply do not seek it, they are more reluctant to take risks, or prefer to use less capital for the startup (Lee & Marvel, 2014; Gomes *et al.*, 2014;

Fernandes & Mota-Ribeiro, 2017). Our survey has also shown that 'difficulty of acquiring investment or financial funding' is among the biggest challenges that foreign female entrepreneurs face (Table 5). This seems to be typical for women entrepreneurs no matter where they are. Nevertheless, a more comprehensive study in this area is recommended because startup capital and further financing has a significant impact on both the scalability and sustainability of business.

Table 5. Top 3 Challenges/Barriers

Top 3 Challenges	1	2	3	N/A
Lack of experiences and skills	1	7	5	11
Difficulty of acquiring investment or financial funding	6	4	7	7
Lack of business social capital or network	6	9	2	7
Family Obligation and Lack of time	2	2	4	16
gender discrimination	1	1	6	16
Cultural differences	7	5	3	9
Business scalability	7	3	8	6
Talent attraction and retention	5	4	4	11
Others (pls specify)	0	0	0	24

Source: own study.

Gender Discrimination Seems not to Be a Major Issue in China

Gender discrimination is often the result of gender beliefs that are culturally inherent to a society and a possible explanation for reducing women's likelihood of entering entrepreneurship (Minniti & Naudé, 2010). However, most of the interviewees said that China (particularly Shanghai) is a great place for female entrepreneurs.

> Itv-2 '… a great opportunity in Shanghai. Rated one of the best cities for female entrepreneurs…'
>
> Itv-3 '… China doesn't have barriers like other countries, female entrepreneurs have lots of opportunities, especially Shanghai women are very independent…'
>
> Itv-4 '… environment for female leaders in Shanghai is a lot more positive than expected, female leaders in Shanghai have a relatively good position compared to Europe; especially females of my generation in Shanghai, maybe even more powerful than men because they have no limits to think. It is easier for me to tell people in Shanghai that I am the CEO of a company. Even in Europe, which is known for gender equality, people would question how it is possible for a young girl to be CEO. In China, this is not a surprise…'

Again, the survey outcome confirms a similar finding as in Table 5 which indicates that 'gender discrimination' is the least difficult barrier to cross in China. A Mexican survey participant also mentioned specifically that 'financial trust and business with women' makes it easier to start a business in China.

However, there is still a diverse and mixed opinion toward this. This could also be industry specific. For example, as pointed out by Itv-4, her business is a male-dominated traditional manufacturing business in China and the former owner and management are all men. So her

greatest frustration concerns the industry's expectation from a traditional male leader as opposed to that from a young lady. A recent empirical study about entrepreneurial identity transition concluded that women entrepreneurs running family businesses try their best to fit into a masculine society. Also, the main goal of a women business owner is to gain respect in the 'men's world' as exemplified by former male management. This stems from the urge to become recognized by the family and workers (Fernandes & Mota-Ribeiro, 2017).

While answering the survey question on what the key challenges were as the foreign women entrepreneurs in China, around 29% still described several gender discrimination aspects as their key challenges, e.g., 'some males in the industry do not take you seriously', 'to recognize and listen to you', 'they (men) want to do business with men, they (men) don't trust that as women we have the knowledge and expertise', 'being perceived as pushy rather than aggressive and committed—these are adjectives often reserved for men', etc. On the other hand, there are actually a few of them experiencing a positive gender advantage rather than discrimination for being female foreign entrepreneurs. This could be very industry specific, so there is a need for an empirical study using a larger sample.

Greater Difficulty in Doing Business in China

Although both our interview and survey findings have pointed to the greater opportunity and bigger market in China attracting entrepreneurs, most of the participants observed that it was more difficult to start a business in China. Itv-1 commented on the local administrative challenges, such as regulations, human resources, taxes and accounting etc., being a lot more complex in China. Itv-4 emphasized the talent acquisition challenge, market understanding, language barrier, cultural challenge and trust issue.

Our survey found that 54.2% participants think it is more difficult to do business in China. The most mentioned reasons for being difficult was legal and administrative complexity followed by culture and language barriers, and then market understanding. Those who thought that it was easier to start a business in China stated that the reasons were mainly market opportunity and entrepreneurial spirit and activity.

Indeed, China actually ranks 78th out of 190 countries in the World Bank Ease of Doing Business Rating as reported in the latest GEM 2017/2018 report (GEM, 2018). Female foreigners first come to China to startup a business, focusing to capture the greater opportunity there but ignoring the specific uniqueness of the Chinese ease of doing business in China is a major challenge.

Cultural Difference is a Big Challenge and also an Opportunity for Great Learning

The interviewees commented that Chinese people's willingness to try and not to be afraid to fail, as well as adaptability are good qualities of Chinese people. One of the survey participants resonated a similar comment and stated that the 'higher speed of development of new ideas and willingness to try out these new ideas' makes it easier to do business in China. The foreign women entrepreneurs positively perceived this entrepreneurship spirit to be embedded in Chinese culture. However, the culture difference is still the major challenge for foreigners and foreign women entrepreneurs.

Women entrepreneurs have largely been found to be more people-centric in their leadership style (Davis & Abdiyeva, 2012). China has a strong people-oriented culture, even foreigners doing business here would find that a leadership style has to be people-oriented in order to be more effective in business operations and achieving business goals.

Itv-4 recounted a typical story, illustrating how a foreign profit-oriented culture needs to be adjusted to adapt to the local cultural norms.

> '…when I first came here, I was very focused on sales with our sales team, numbers, KPI — these were my goals that we have to achieve, this is our strategy, how to get there etc…it would be ok, but it would be much more effective if I could actually focus on goals and numbers apart from focusing just on the people involved. So sometimes if I felt like our sales people were not delivering for whatever reasons, first I would remind them of the goal: *hey you are not delivering, what's the reason, this is our goal, you only do 60%;* a very much number focused. And then I realized that by completely dropping the numbers, and just calling my sales employees in the evening and asking them *is everything ok? Is there anything I can do to help or support you?* I found this to be far more effective than just talking about these goals…'

From the survey finding, as indicated in Table 5, 'culture difference' is the highest among the top three challenges and barriers selected. Besides, 25% of the survey participants also described in their language that culture (12.5%) and language (12.5%) are their key challenges in doing business in China.

Patience/Adaptability/Flexibility/Resilience are the Most Common Learning

Itv-4 stated that 'Chinese are extremely adaptive and that the number one skill for the future world is adaptability because everything will be so uncertain in the future.' Our survey outcome also agreed with this. 'Patience', 'adaptability', 'flexibility' and 'resilience' are among the most common elements worthy of learning from China.

However, when it comes to the question about any good practices or innovation or policy or culture of China that can be imbibed in foreign countries, 37.5% of did not have any opinions or were unsure. Only 25% mentioned technology and innovation, followed by 12.5% who described government support policies. It appears that it is still too early for most foreign women entrepreneurs to comment on the learning; they do not have yet enough experience with major influential aspects from China that could be diffused internationally.

Mentor and Supports are Important in Entrepreneurship in China

Over 75% of foreign women entrepreneurs had mentors and supporters to inspire or guide them during their startup processes. Over one third had a mixture of Chinese and foreign mentors but the majority (37.5%) were just foreign mentors. In either way, this indicated that most of them are leveraging social resource and network to support their entrepreneurship which is important as suggested by Minniti and Naudé (2010). However, the reasons cited did not relate to gender differences.

DISCUSSION AND FUTURE RESEARCH

Over 85% of the participants of the interview and survey are from developed economies, it is actually not a surprise to see majority of their typology as 'success-oriented' or 'strongly success-oriented' that is also confirmed by their motivation factor to entrepreneurship as 'self-achievement' and 'autonomy and independence'. While many past research suggested a strong relationship between family responsibility and women entrepreneurship, the survey

result does not agree that family factor played a significant role in their motivation and was an obstacle to entrepreneurship. The opportunity driven nature of these female foreigners to enter entrepreneurship in China is likely one of the key reasons. Opportunity entrepreneurship has a significantly positive impact on economic development (Acs, 2006), but the difficulty of doing business in China rated as the key issue by the interviewees and survey participants might likely hinder the potential economic growth.

Besides, our interviews and survey presented a possible link of scalability with business nature and the number of startup years, but larger scale empirical research is highly recommended to understand what factors confine the business natures of female foreign entrepreneurs and how they compare with male entrepreneurs given the variety of opportunities and technology advancement available in China.

Although cultural difference was still regarded as one of the most challenging barriers, the relatively low gender discrimination could be one of the key reasons for making China more attractive to female foreign entrepreneurs. China could possibly play a key role in demoting gender discrimination and contribute to fostering female entrepreneurship globally.

Foreign women entrepreneurs can gain a lot in terms of developing personal skills and capability growth by doing business in China. Qualities like patience, adaptability, flexibility and resilience were mentioned by our respondents to be the factors contributing the most to personal development. That could be applicable to any other country. However, few shared specifically any external learning like good practices, technology, innovation, policy etc. from China that can be diffused internationally. The reasons for this seem to lie in the early-stage and the nature of industrial sectors of their startup businesses in China. This is also an area deserving further study; whether gender plays a different role in this aspect or not should be valuable in terms of the overall understanding of women entrepreneurship.

This research has reached many conclusions similar to those from many past studies in other countries. The similarities involve mostly external factors, such as the nature of the business, industry sector, business size, business performance, financing, as well as challenges and barriers. But the cultural difference has clearly stood out as additional major barrier for foreign women entrepreneurs in China. More in-depth and larger scale empirical research is highly recommended to provide practical insights for the policy maker to unleash the full potential of the economy by including and supporting these highly motivated and opportunity-driven foreign women entrepreneurs.

As for internal factors such as motivation and family-business orientation, the findings from this research are at variance from previously reported opinions. Female foreign entrepreneurs start businesses in China mainly for self-accomplishment, greater independence and autonomy. Likewise, family/work balance is not a major factor. Having attained high education levels and being a lot more experienced, the majority of them are essentially 'strongly success-oriented'. They cited greater opportunities provided by China as well as the entrepreneurial spirit and environment prevailing there as the main reasons for this. Furthermore, there is relatively lower gender discrimination in China; it is even lower than that in the so-called equal-opportunity countries like the European countries. All these make it easier for female foreign entrepreneurs to consider starting up a business in China.

CONCLUSIONS

The research result shows many similarities between the foreign female entrepreneurs we studied and those reported in past studies. Most of the similarities lie in external factors such as business nature, scale, sectors and performance as well as their challenges and barriers such as financing. However, there were also differences in terms of internal factors such as motivation, especially family obligation and family-business orientation. Though gender discrimination was surprisingly lower in China as mentioned by the participants, culture is still regarded as the biggest challenge to them. However, the most common learning from China they reported was also related to culture, the Chinese qualities, such as adaptability, flexibility, resilience, etc. Most foreign women entrepreneurs also found them a greater difficulty in doing business in China when compared to their home country or other foreign countries. These differences and challenges call for a further in-depth study if policy makers are interested in attracting these experienced and senior foreign women entrepreneurs.

Despite the obvious limitation due to the small sample size and the sample being mostly from one city only, which makes the results hard to generalise or to draw serious conclusions, our study did find out some insights about foreign female entrepreneurs in China. We found the internal and external factors that influenced their choices of starting the business, which should also enrich the overall literature on entrepreneurship, particularly women entrepreneurship in China given the high level of globalisation nowadays and China being the second largest economy in the world. We hope we have started a new line of research for colleagues working on entrepreneurship in China or cross-culturally.

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Entrepreneurship in China: A Review of the Role of Normative Documents in China's Legal Framework for Encouraging Entrepreneurship

Ernest Kenneth-Southworth, Casey Watters, Chuning Gu

ABSTRACT

Objective: The objective of the article is to provide an overview of the Chinese legal framework while examining the laws and legal provisions influencing entrepreneurship in China for both Chinese and foreigners, arguing that the current legal environment encourages domestic entrepreneurship and foreign investment.

Research Design & Methods: This article explores the legal environment for entrepreneurship in China by taking a comparative and normative approach to introducing several recent initiatives established through normative documents.

Findings: As China seeks to transform from an export economy towards a domestic consumption model, the government is increasing implementing initiatives to encourage domestic entrepreneurship. The majority of these initiatives are established through normative documents that, while not technically defined as law, nevertheless have legal effect.

Implications & Recommendations: It argues that the legal framework is principally targeted at domestic entrepreneurship but has also benefited foreign entrepreneurship.

Contribution & Value Added: This article is unique in that it explores the role of normative documents in Chinese initiatives to encourage entrepreneurship. In conclusion, China has invested heavily both economically and legally in the encouragement of entrepreneurship and in the cooperation between domestic and foreign entrepreneurs.

Article type: research paper

Keywords: China; business law; entrepreneurship; entrepreneurship policy

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INTRODUCTION

The Chinese economic miracle experienced over the past four decades has resulted in the country's transformation from a centrally planned economy to a largely market based economy. This transformation, however, was fuelled largely by the development of a manufacturing sector coupled with international demand for Chinese goods powering an export economy. With China becoming a developed economy and bypassing the United States as the world's largest economy measured by purchasing power parity (IMF, 2017), the country is again seeking an economic transformation – one away from manufacturing and towards domestic consumption coupled with innovation and entrepreneurship.

This approach is not unique as the continued economic success of developed countries like China's main competitor, the United States, has depended on the 'inventive genius of the human experience, fostered by [a] legal system which has been designed to stimulate, promote and protect' property rights (Benson, 1994). An understanding of China's legal framework and provisions influencing entrepreneurship is essential in examining opportunities for innovation as '[l]aw is the last great untapped source of competitive advantage.' (Downes, 2004). However, business scholarship often ignores the central role of law, perhaps echoing the common sentiment in the business world that law constitutes an 'impediment to growth.' (Evans & Gabel, 2014).

Within the context of business academia, entrepreneurship has established itself as a distinct discipline with a number of theories relating to the promotion of entrepreneurship and its impact on stakeholders, including the local community. While there is no question that law impacts entrepreneurship, the theoretical relationship lacks consensus among scholars with some advocating unique theoretical frameworks and others arguing that entrepreneurship merely operates within the tools provided within existing legal frameworks (Means, 2011). Ultimately, law operates to facilitate or bar transactions. Within the context of entrepreneurship, it can be seen to facilitate or bar the implementation of business theories as the role of the lawyer is to 'facilitate another person's process.' (Hobbs, 1997).

In many economies there exists a clear distinction between law and policy. However, the role of normative documents in China's socialist market economy is to bridge the statutes and regulations with the policies underlying the provisions. This article, therefore, provides an overview of the Chinese legal framework encouraging entrepreneurship by introducing recent provisions introduced largely or entirely via normative documents.

Much of the existing legal literature examines domestic Chinese entrepreneurship through a law and economics perspective and foreign entrepreneurship by examining restrictions on foreign investment and requirements for establishing a WFOE or Joint Venture. There are few articles directly addressing the role of normative documents with only one addressing arguably the most significant of recent reforms established through normative documents, the foreign work permit system (Watters, Feng, & Tang, 2018). China has also experienced numerous reforms in recent years, including the transformation of the judiciary from former bureaucrats, often without legal training, to a sophisticated judiciary of trained lawyers. The transformation of the legal bar and of substantive legal provisions, including normative documents, has resulted in an environment where protection of legal rights is easier than in the previous decade (see e.g. Keupp, Beckenbauer, &

Gassmann, 2010). While numerous articles mention the role of local variation in legal interpretation (Xin, 2009; Snyder, 2018) or normative documents (Yan, 2011; Zhang, 2016), there are still many opportunities for case studies and empirical research addressing the content and impact of these variations and those that address local variation or normative documents in the context of entrepreneurship. The variations themselves, however, often exist due to the central role of normative documents in the Chinese legal system. In response, much of the literature focuses on policy and foreign law (Shen & Watters, 2016a; 2016b). This review, therefore, seeks to examine key normative documents and their corresponding statutes, regulations and rules influencing entrepreneurship in China.

This review provides an overview of the Chinese legal framework while examining the laws and legal provisions influencing entrepreneurship in China for both Chinese and foreigners, arguing that the current legal environment encourages domestic entrepreneurship and foreign investment. The article takes the comparative and normative approach to analyse the recently adopted normative documents and corresponding literature in western legal databases (Heinonline, LexisNexis and Westlaw). The first section provides the background to entrepreneurship in China and provides an overview of the Chinese legal system explaining the relationship between laws, rules and normative documents with legal effect. The second section introduces the legal provisions encouraging entrepreneurship and limitations with respect to foreign entrepreneurs, followed by the third section, which provides an analysis of the implication of recent initiatives. The article concludes with a summary viewing the legal environment from the perspective of China's objective of encouraging innovation.

LEGAL ANALYSIS, RESULTS AND DISCUSSION

Chinese Law and Entrepreneurship

Emphasis on Creating a Legal Framework

The relationship between law and entrepreneurship is complex; harmonious in that law provides protections and a common framework of acceptable behaviour, and discordant in that law creates barriers and increases transaction costs. Following instituted major economic reforms liberalising the domestic economy and encouraging foreign investment, the need for law to regulate transactions and private corporate governance has in the last several decades become essential in the context of China. Even within the first couple of decades after Deng Xiaoping, China's then paramount leader, instituted major economic reforms liberalising the domestic economy and encouraging foreign investment, recognized business entities remained largely state-owned enterprises.

Throughout history, sole traders have operated largely without need to resort to the courts. However, as these businesses grow, the owners must rely upon others and the importance of contracts and other legal protections become increasingly apparent. This is particularly true when investors are involved. As China's wealth increases, an increasing number of entrepreneurs will seek to grow their businesses.

Clear legal rules are also increasingly important to protect foreign entrepreneurs and investors. Unlike Chinese citizens who may form a number of business entities, foreign investors are limited to establishing a corporation as a Wholly-Foreign Owned En-

tity ('WFOE')[1] or a joint venture, and are restricted from many industries. Historically, the procedures for forming a WFOE have been quite onerous and required significant registered capital.[2] Additionally, until established, the WFOE cannot employ locally and it is illegal to employ someone in China without a valid business entity. This has forced many start-ups to hire local consultants to established companies at significant expense. These requirements have the effect of ensuring that foreigner entrepreneurs establish businesses with sufficient size and assets to require reliance on an established legal framework. This reality makes a thorough understanding of the laws encouraging entrepreneurship and those establishing barriers necessary for both foreign entrepreneurs and medium to large domestic entrepreneurs.

The Role of Normative Documents in the Chinese Legal Framework

At the national level, the National People's Congress ('NPC') and its standing committee hold sole authority to promulgate statutory law, with the State Council authorised to issue regulations. Legislation passed by local People's Congresses at the provincial level and for designated major cities is also deemed law (Watters *et al*., 2018). Although law is officially defined at the national level as statues, regulations and departmental rules, other documents such as Guides, Notices and other normative documents are commonly issued by government organs and may have binding legal force. Therefore, in a general sense, normative documents can be deemed law.

A lack of understanding regarding the importance and role of normative documents in the Chinese legal system compounded by the difficulty in determining which provisions will be strictly implemented has resulted in such documents being under analysed in much of the academic literature. Therefore, the next section will introduce a number of normative documents with legal force issued by Chinese government entities along with corresponding regulations and statutory law.

Normative Provisions Encouraging Entrepreneurship and Foreign Investment

Encouraging Domestic Entrepreneurship

At the national level, China has adopted several provisions together with policy initiatives aimed at increasing entrepreneurship. The announcement of 'population entrepreneurship and innovation' on September 10, 2014 by Keqiang LI, Premier of the State Council, provided the foundation for several future initiatives, each building upon each other. In March 2015, the State Council issued the 'Guideline for the General Office of the State Council on Developing Public Space to Promote Popular Innovation and Entrepreneurship.' The guideline emphasised building a group of 'low-cost, convenient, full-factor, open-minded and creative spaces,' and reducing barriers to innovation and entrepreneurship by deepening the reform of the commercial system and giving appropriate financial subsidies to encourage science and technology personnel. The guidelines also sought to address support for innovation and entrepreneurship in public services, strengthening the guidance of financial funds, improving the investment and financing mechanism for entrepreneurship, enriching innovation and entrepreneurial activities, and the creation of an atmosphere ripe for innovation and entrepreneurship culture.

[1] Also, commonly referred to as a WOFE.

[2] The amount of the required registered capital varied by industry and local government standards.

Since the 2015 Guidelines, the State Council has released several 'Opinions' including in June 2015 ('State Council's Opinions on Vigorously Promoting People's Innovation in Public Entrepreneurialism'), in September 2015 ('State Council's Guidance Opinions on Accelerating the Construction of Public Innovation Platform for Massive Innovation'), in February 2016 (Guiding Opinions of the General Office of the State Council on Accelerating the Economic Transformation and Upgrade of the Public Space Development Service Entity'), in June 2017 ('Opinions on the Implementation of the Second Batch of Public Innovative Demo Demonstration Bases') and July 2017 ('Opinions of the State Council on Strengthening the Implementation of Innovation-Driven Development Strategies to Further Advance the Popular Innovation of the People's Business Community').

This section examines recent initiatives based on normative documents that encourage entrepreneurship in the areas of banking and tax regulations, encouraging the development of technology for industrial growth and access to labour.

Banking and Tax Initiatives

Whilst China is encouraging entrepreneurship more broadly, policies relating to finance and tax, research and development and employment have been emphasised at both the national and local levels. Supportive financial policies are crucial for the nurturing of entrepreneurial activities. To remove any financial obstacles for entrepreneurship, ensuring development of innovative financial products, expansion of credit support and the development of venture capital investment is crucial. Under the premise of effective prevention and control of risks, local corporate banks can establish small and micro sub-branches and community sub-branches at the grass-roots level to provide inclusive financial services for social welfare (Reply of the China Banking Regulatory Commission to Proposal No. 3736). The credit process and credit evaluation model can be simplified to improve efficiency. Further, innovative taxing methods such as bank card acceptance terminals, online banking and mobile banking are promoted at both the national and regional level.

Small and micro enterprises ('SMEs') can benefit from favourable tax policies where the entrepreneurship entity provides employment activities. (Notice on Further Expanding the Scope of the Preferential Policy on Income Tax on Small Profitable Enterprises). For instance, from October 1, 2015 to December 31, 2017, for small profit-making enterprises with annual taxable income between 200.000 yuan and 300.000 yuan inclusive, their income was reduced by 50%, paying corporate income tax at a rate of 20%. Laid-off workers, retired soldiers, college graduates and others are regarded as key groups. To encourage their employment, create jobs from entrepreneurship activities, policies of reducing the tax on corporate income and value-added tax are implemented to engage them in entrepreneurial activities. Business enterprises, including service-oriented enterprises, labour-based processing enterprises, and processing enterprises in the labour service enterprises, which recruit key groups can obtain tax relief in relation to business tax, city maintenance and construction tax, education surtax and corporate income tax.

Transfer of Technology

Since October 1, 2015, the income from technology transfer acquired by non-exclusive license use rights for the transfer to resident enterprises nationwide for more than five years has been included in the scope of income derived from technology transfer that en-

joys preferential corporate income tax. The part of the annual resident enterprise's technology transfer income that does not exceed 5 million yuan is exempted from enterprise income tax. For those that exceed 5 million-yuan, half of the enterprise income tax will be levied (Notice on Promoting Taxation Pilot Policy of the National Independent Innovation Demonstration Zone to National Implementation).

Research and development are paramount to the success of products created by entrepreneurial businesses. To encourage innovation, the establishment of technology incubators and university innovation bases are encouraged through several tax policies that waive specific taxes (Notice of Ministry of Finance and the State Administration of Taxation on the Tax Policy of the National University Science Park 2016). For instance, the land used to establish incubators is provided free of charge or, when leasing the land, there is an exemption from land use tax and business tax.

Labour and Mobility of the Workforce

Mobilising Chinese rural migrant workers and encouraging them to return to their hometown to start up a business also features high in the State Council's entrepreneurship policy. For example, in Guangxi Province, 'The Guiding Opinions on Further Strengthening the Compulsory Education of Migrant Workers Working in Cities' and 'the Circular on Further Improving the Guarantee Mechanism for Compulsory Education in Urban and Rural Areas' have been issued to guarantee the right of migrant workers' children to receive education. The compulsory education for children of migrant workers is included in the public education service system. The establishment of a school entrance policy based on residence permits where migrant workers are concentrated has been introduced. Local governments have solved the problem of insufficient public education resources through the purchase of places in private schools, effectively protecting migrant workers' children (Huang & Fan, 2017).

Under the adoption of these policies, entrepreneurship in China has been encouraged. The encouragement is a mixture of tax exemptions and the State Council policy. Whilst there is clear encouragement for Chinese companies to engage in entrepreneurship activities, that may also include the hiring of foreign experts, the core of the policies, understandably, is targeted at the domestic and predominantly local level.

Policies for the Encouragement of Foreign Entrepreneurs and Investment

Predominantly, there are two ways for foreigners to make an investment in China. Wholly Foreign-Owned Enterprises 'WFOE' and Joint Ventures 'JVs'.[3] WFOEs give foreign companies greater control over their operations, allow the maintenance of full equity ownership and are considered as being quicker to establish than a JV. Nevertheless, WFOEs must contribute to the benefit of the Chinese economy and therefore are limited to particular industries and subject to currency controls. JVs, aside from contractual joint ventures, require the establishment of a Sino Foreign company in which equity and capital will be shared (Chen, 2010).

Since 2017, China has issued a series of policies to promote high-level trade and investment. The 'Circular on Several Measures for Expanding the Use of Foreign Capital for Opening to the Outside World' suggests measures on strengthening foreign investment through the easing of restrictions on foreign investment in the service, manufacturing, and mining sectors and through encouragement of foreign investment in high-end manufacturing, smart

[3] JV's can take two forms. Equity Joint Ventures 'EJVs' and Cooperative Joint Ventures 'CJV'.

manufacturing and green manufacturing. A point of emphasis on the use of foreign capital to participate in infrastructure construction, setting up R&D centres, and supporting overseas high-level talents to start businesses in China, has also been made at the national level. This section first addresses the opening of additional industries to foreign investors before discussing tax initiatives and policies encouraging foreign talent acquisition based on normative documents.

Opening Industries to Foreign Investment

The August 2017 'Circular on Measures to Promote Foreign Investment Growth' addressed improving the level of legalisation, internationalisation, and facilitation of the foreign investment environment in China. Further, the 2017 version of the 'Foreign Investment Industry Guidance Catalogue' reduces the restrictions on foreign investment access in the service, manufacturing, and mining industries.

The National Standards Commission, the National Development and Reform Commission, and the Ministry of Commerce jointly issued the 'Guiding Opinions on the Participation of Foreign-Invested Enterprises in China's Standardization Work' which aims to create a fair and standardised environment for foreign-invested enterprises. The introduction of the above 'Opinions' will allow foreign-funded enterprises to participate in the standardisation work in China with specific guidelines, which means products produced by foreign-invested enterprises in China will receive equal treatment.

Tax Initiatives

There has also been a move to create simpler laws relating to foreign companies investing in China.

For example, previously China's tax policy stipulated that profits made from a foreign business operating in China are subject to a 10% withholding tax rate. However, China has recently implemented a deferred taxation policy which imposes no withholding income tax for those who meet the prescribed conditions. Further, a preferential tax rate of 15% will apply to technologically advanced businesses as is currently the case in 31 cities (Zeng, 2017).

Additionally, there have also been attempts to improve the business environment for foreign companies by relaxing the rules relating to repatriation of profits of foreign investors. Foreign investment returns, such as profits and dividends, that have been legally obtained in China may be freely remitted in RMB or foreign exchange.

Labour and Talent Acquisition

To foster domestic entrepreneurial activities, China has also implemented rules for foreign talent visas, simplifying procedures for foreign high-level talents to apply for work permits and residence permits. For example, in Chongqing, high-level foreign talents, whose spouses and minor children work in the Chongqing Free Trade Zone and meet specified criteria are recommended by the Chongqing Free Trade Zone and can apply for permanent residence in China. This also applies to foreign students who are allowed to apply for a private residence permit with 'entrepreneurship' in accordance with the university graduation certificate and a business plan. (Promoting the Interpretation of 14 Entry-exit Supporting Policies and Measures in Chongqing's Open Upland Construction in Inland Areas). Taking Chongqing as a further example, foreign students who have the will to innovate and start a business can apply for a private residence permit upon graduation

from universities in China for two to five years. During the period, those who were employed by relevant units may apply for work permit residency in accordance with regulations. Foreign students who have been invited to practice by companies registered with the Chongqing Municipal Public Security Bureau's Exit and Entry Administration Bureau may apply for short-term private affairs visas ('internships') to enter the country for internship activities at the port of entry. Another example is in Suzhou, which has introduced several settlement policies such as the 'Suzhou Talent Plan', that provide financial assistance as well as a guide for entrepreneurship (SU, 2016).

Therefore, China has made real steps not only to encourage foreign investment but also to protect it and give foreign-owned companies an equal footing with domestic-owned companies. However, these are still some industries restrictions and foreign investment is usually dependent on collaboration with domestic companies.

Impact of Normative Provisions

Local Interpretation of Laws and Normative Documents

The provisions enacted to encourage entrepreneurship and foreign investment provide a variety of incentives to encourage activities beneficial to the Chinese economy. These provisions however, are subject to local interpretation and variation (Xin, 2009; Snyder, 2018). Therefore, their effectiveness, as with many Chinese legal provisions, will depend largely on the local application. Different local policies may vary across key areas, such as incentive policies, foreign management service, and investment in environmental protection.

However, it should be noted that the State Council at the national level has taken meaningful steps to promote fair competition between domestic and foreign capital. To this end, the State Council has introduced several measures to emphasize the consistency of all regions and departments to ensure the implementation of policies and regulations and promote the fair participation of domestic and foreign enterprises in the standardisation of China (Circular on Several Measures for Expanding the Use of Foreign Capital for Opening to the Outside World). These policies are in line with broader reforms including adopting international standards on taxation and policies sought to eliminate the round-trip investment model (Shen & Watters 2015).

While China is making inroads on the path to harmonize the implementation of law and legally enforceable normative standards between regions, substantial local variation still exists. As such, it is essential for foreign companies seeking to establish a presence in China to ensure familiarity with local rules and interpretations. This often includes the hiring of local consultants, and therefore, incurring additional costs. Even with local experts, due diligence is necessary in making investments and hiring employees. The additional costs, which largely impact foreign or non-local enterprises, is another reason that implementation of policies on the local level favours domestic enterprises and local businesses in particular. The cost of assessing the legal environment and local interpretation increases start-up costs and may in some instances act as a barrier to setting up an enterprise. However, such costs can be alleviated by collaborating with a local enterprise through a joint venture. Nevertheless, joint ventures have their own set of challenges as costly disagreements regarding management and ownership of assets, including intellectual property,

may arise. Regardless of the approach, foreign enterprises must ensure a solid understanding of local interpretations of Chinese laws and normative documents to ensure proper compliance with the Chinese law.

Encouraging Domestic Entrepreneurship and Foreign Investment

Like many jurisdictions, the primary goal of initiatives encouraging entrepreneurship is to encourage domestic entrepreneurship with separate initiatives aimed at encouraging foreign investment. This section will discuss the impacts of initiatives governing the development or acquisition of intellectual property.

One issue that has been traditionally topical amongst foreign companies operating in China is the protection of intellectual property rights of foreign-invested enterprises. At the national level, China has strengthened intellectual property rights by protecting against online infringement and piracy, patent infringement, and infringement of trademark monopoly rights, strengthened judicial protection and administrative enforcement, and increased the punishment for illegal infringement. This increase in the protection of intellectual property rights is important both for Chinese industries, which are increasingly taking a leading role in developing intellectual property, and foreign companies seeking to sell or manufacture products with an intellectual property element in China.

Specifically, the State Council has produced a Circular that emphasises the protection of intellectual property rights of foreign invested enterprises, the increasing protection of international intellectual property rights, the widening of investment and financing channels for foreign invested enterprises, and the implementation of the unified registered capital system of internal and external enterprises (Circular on Several Measures for Expanding the Use of Foreign Capital for Opening to the Outside World 2017).

The tax breaks discussed above for the transfer of intellectual property to domestic enterprises are predominantly intended to encourage domestic acquisition of technology and the resulting entrepreneurship. However, foreign owned enterprises are domestic entities and therefore will be likely to benefit from the initiative. This is an example of how the Chinese law is increasingly treating foreign and domestic owned enterprises equally. However, the complexities of establishing a WFOE as compared with a domestically owned enterprise have the effect of making the provisions predominately encourage domestic entrepreneurship. This should not, however, detract from the fact that many provisions are beneficial to foreign enterprises and reforms, such as opening increasing industries to foreign investment, solely benefit foreign enterprises.

CONCLUSIONS

To create rules and policies that effectively achieve a harmonious result of protecting entrepreneurs whilst not discouraging entrepreneurship through barriers, is no simple feat. Through a combination of normative documents and regulations, China has taken a significant step in seeking to find that harmonious balance. Whilst the specific policies relating to both domestic and foreign entrepreneurs do exist, and the interpretation of rules can vary between regions, this is not out of the ordinary for any country. It can be said that China has invested heavily both economically and legally on the encouragement of entrepreneurship and on the cooperation between domestic and foreign entrepreneurs, while seeking to cultivate domestic entrepreneurship and development of technology. Foreign

entrepreneurs must, however, investigate local interpretations of laws and normative documents before engaging in business in China.

The main research limitation of this study lies in the fact that there is limited precedent resulting from the way in which the normative documents and regulations are fully applied in practice. Within the so called 'Common Law System' (adopted by Britain, The Commonwealth and the United States) the application of regulations is usually a judicial exercise resulting in a body of law that builds up over time (i.e. precedent) which explain and give application to the regulations. China, similar to some European countries, adopts more of a 'Civil Code' system that places more emphasis on the drafting of codes and regulations. Further, emphasis is placed upon regulations being applied by officials both nationally and locally.

We suggest that the further studies exploring the role of law in China for entrepreneurship should focus on two areas. Firstly, looking at the rules relating to transacting profit made outside China. This is an issue that is quite important for foreign entrepreneurs. Secondly, the rules regarding intellectual property. In recent years, China has made a concerted effort to address intellectual property protection and this is an issue that foreign entrepreneurs often inquire about before investing in China.

In conclusion, China has invested heavily both economically and legally in the encouragement of entrepreneurship and in the cooperation between domestic and foreign entrepreneurs.

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Was it Merely a Coincidence? Towards a Practice-Based Perspective on Early Internationalisation of SMEs

Zofia Patora-Wysocka

ABSTRACT

Objective: The aim of this article is to analyse the relation between some aspects of reflexive actions and routinisation within the internationalisation process. The article provides a new insight into the phenomenon of early internationalisation of small and medium-sized enterprises.

Research Design & Methods: The qualitative research offers an alternative approach to the problem of how enterprises explore foreign opportunities in the realms of daily performed activities. The research is based on the practice-based orientation. That perspective explores the concepts of everyday actions and practice in the realms of routine dynamics field of studies.

Findings: The qualitative research provides a framework of the relation between various types of reflexive actions, and their routinisation, as well as the internationalisation of everyday practice.

Implications & Recommendations: This study explores the practice-based perspective on IE and the early internationalisation process of textile and apparel enterprises. This work contributes to the deeper understanding of the early internationalisation process and it sheds some new light on its potential explanatory categories. The notion of daily activities may be perceived as important units of analysis in management.

Contribution & Value Added: The analysis of everyday activities of early internationalisation of SMEs may comprise here a promising research area and therefore, a 'theoretical bridge' between the practice-based perspective and IE may develop.

Article type:	research article
Keywords:	textile and apparel enterprises; integration of pre-existing theoretical approaches; routine; reflexivity; international entrepreneurship
JEL codes:	L20, L21, L26

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INTRODUCTION

This study explores the practice-based perspective on IE and the early internationalisation process of textile and apparel enterprises. The phenomenon of early internationalisation of small and medium-sized enterprises (SMEs) has attracted a growing research interest over the past years (Amorós, Basco, & Romaní, 2016). The international entrepreneurship (IE) literature on early internationalisation tackles a vast number of aspects of entrepreneurial activity on foreign markets. Entrepreneurship in its basic meaning puts emphasis on 'individual opportunistic activity that creates value and bears risk and is strongly associated with innovation' (Styles & Seymour, 2006, p. 127), thereby one may presume there is a link between IE and approaches that explore the phenomena of daily activities in organisation and management studies. The 'big issues' of IE include finding, seizing and exploiting opportunities, as well as gaining knowledge and experience (Oviatt & McDougall, 2005) and operating under uncertainty, risk and barriers to SMEs' internationalisation (Baum, Schwens, & Kabst, 2011). Thus, there is little empirical research examining how everyday activities can shape early internationalisation. This study fills this important gap in the literature, and in particular shows the relationships between reflexive and routine activities with regard to the early internationalisation process.

The notion of reflexivity is related to intentional as well as heuristic activities (Makowski, 2016). Everyday activities may be of different character – some are routinely reproduced and some are taken in an unplanned manner. Thus, I differentiate between 'high' and 'low' extent of reflexivity of activities recreated daily. The clearer the goal representation, the more intense the reflexivity of activities is. However, at times, the intentionality of actions is incoherent with their results. Therefore, the qualitative research illustrates the thesis that there are differences in the reflexive activities that influence the process of early internationalisation. Therefore, 'high' reflexivity can go in pair with spontaneity of activities, especially where the early internationalisation is concerned. On the other hand, relatively low reflexivity of activities takes place when it comes to unintended situations or routinely reproduced activities. Still, that kind of acting can be of purposive character when we look at the overall practice reproduction. This article seeks to examine in further detail how the reflexivity opens up everyday stream of activities to change in the context of internationalisation. Consequently, it specifies the relation between reflexive and routine actions within the everyday practice in the internationalisation process of textile and apparel SMEs.

The research is based on the practice-based orientation. That perspective explores the concepts of everyday actions and practice in the realms of routine dynamics field of studies (Feldman, Pentland, D'Adderio, & Lazaric, 2016). Organisational processes take place on the everyday level of recursive individual as well as collective activities that are anchored in the entrepreneurship and internationalisation issues. Therefore, the qualitative research was conducted during four in-depth interviews in three enterprises from the textile and apparel industry.

Tracing the efforts to analyse and synthesise the growing body of issues tackled under the domain of international entrepreneurship (IE), we may see that IE highlights the importance of agency and human actions, innovation, learning, creativity, opportunism, as well as organisational change and strategic management. Whereas these problems

are of recurring research importance in internationalisation and practice-based studies, in a more general view they relate to teleological activities as well as the problem of forming organisational goals in random situations and contingencies. The practice-based approach may develop the 'theoretical bridge' between the IE's issues and the problem of everyday routines and practice in SMEs. In order to place the relation between routine and reflexive actions in the realms of early internationalisation process, the literature review explores the potential common aspects of the two perspectives. The qualitative research offers an alternative approach to the problem of how enterprises explore opportunities abroad in the context of their everyday activities. It provides a framework of the relation between various types of reflexive actions, and their routinisation, as well as the internationalisation of everyday practice.

The first section of the article introduces the concepts of routines and reflexive actions in the practice – based perspective. Afterwards, there is a literature review conducted towards the processual orientation in IE. The second, empirical section of the article introduces methods and a framework of the relation between various aspects of reflexive actions, routinisation, and internationalisation in the realms of everyday practice. The final section is devoted to results and discussion. The article is closed by conclusion.

LITERATURE REVIEW

The key categories in the practice-based perspective are routine activities and everyday practice. The notion of routine is well established in organisation and management studies. The notion of routine denotes 'repetitive, recognizable patterns of interdependent action, carried out by multiple actors' (Feldman & Pentland, 2003, p. 95). Although there is a lack of agreement about the notion of routine, this theoretical concept is widely recognized as it opens to the notion of action. Still, routine definitions have limited impact on our understanding of how reflexive actions result in the reproduction of routines or the emergence of new activity patterns.

When actors perform activities using their discursive knowledge, there is a chance to change the stream of activities purposefully. The bundles of routines involve multiple interdependent actions. That calls for the reconsideration of 'technocratic thinking' that involves following purely rational and individually formed goals. The practice-based lens considers routines and capabilities as collective categories that are produced, reproduced and developed in the process of evolution. To put it in a nutshell, routines may be of the emergent character, and their effects may also be of emergent nature. However, it is highly important to notice that emergence of routines is not about their change but rather about 'the occurrence of new ones' (Stańczyk-Hugiet, Piórkowska, & Stańczyk, 2017, p. 540).

Plans, expectations and even clearly defined goals are instantiated in an endeavour of practice, interactions and situational dependence. In terms of interdependency between actions and actors and mutual constitution of routine schemas there is a relational approach to the routine dynamics (Deken, Carlile, Berends, & Lauche, 2016). This framework relates to: i) 'novelty' that is related to past experiences of actors and, therefore, their different interpretation of what is novel in a specific situation; ii) 'dependence' that refers to the consequences of activities for other actions; and iii) 'difference' that concerns various understandings of ostensive patterns of routines (e.g. templates, procedures), as well as different experiences and interests (Deken *et al*., 2016, p. 662).

Putting these premises into the practice-based perspective we get a twofold question about the relation between routine and reflexive actions, and therefore, the intentional and emergent process of forming and pursuing goals in everyday practice in organisations. Dittrich, Guérard, and Seidl (2016) show how reflective talk enables the change of daily routines. The role of a single unit of action is questioned for the sake of collective actions embraced in practice. There have been three aspects of collective reflexion put forth in the context of everyday talk in practice-based studies (Dittrich *et al*., 2016). These are: '1) naming and situating problems or opportunities with regard to the performative and ostensive aspects of the routine; 2) jointly envisaging and exploring alternative ways of enacting the routine; 3) evaluating and questioning these ways from different angles' (Dittrich *et al*., 2016, p. 2). All of these aspects resemble intentional searching for a solution instead of following plans in a rigid way.

I assume that these are the modes of reflexive acting that are present in everyday stream of practice. Although, for analytical reasons, I explore separately modes of reflexive acting, it may be presumed that in contextual situations some of them prevail as well as work together. Therefore, I identify three aspects of reflexive actions: 1) 'acting through analogy' that is a way to manage rapid-change situations (Gavetti, Levinthal, & Rivkin, 2005, p. 693). Using analogy cognitively limits the situatedness, and the newness of context (Goffman, 1959). In this sense, acting through analogy may serve as a dynamic mechanism generative of practice emergence. 2) 'Controlled creation', one of the premises of routine dynamics states that activities reproduced daily 'can consistently produce novel work' (Pentland & Jung, 2016, p. 509). When a situation is undefined, actors need to put new brackets on organisational reality. It may be done by rapid but intended and defined change of recurring practice (Schumpeter, 1934, 'creative destruction') or by controlled directing actions towards new yet clearly visualised situations. Such modes of reflexive acting give rise to routines and daily actions as the locus of innovations. 3) Intentional seeking: as long as outcomes of routines are not pure results of intentions. Actors consciously monitor their routines, envisage different alternatives and explore opportunities. Intentional seeking may be a starting point in new practice emergence.

Summing up, we may presume that teleological activities are of great importance in management theory and practice. Meanwhile, interactions between multiple actors and artefacts, sometimes contradictory intentions and motives, are the background for accomplishing interdependent activities on a daily basis. Actors might pursue their daily routine activities in direct routine performances without clearly defined goals or they may spontaneously engage in changing a stream of activities.

Traditionally, IE put entrepreneurial characteristics and processes in the context of the institutional forms of internationalisation. However, the recent reviews show a growing concern about the bias toward the institutional aspects of internationalisation and postulate the return to the basic concepts of IE that are rooted in entrepreneurial orientation (Etemad, 2015). Tracing the efforts to analyse and synthesise the growing body of issues tackled under the domain of international entrepreneurship (IE) there are striking postulates of the return to the very basic concepts of IE that are rooted in entrepreneurial orientation (EO) (Thurner, Gershman, & Roud, 2015).The very basic attributes of entrepreneurship are 'innovativeness, pro-activeness, and risk-taking' (Miller, 1983), as well as 'competitive aggressiveness and autonomy' (Etemad, 2015, p. 90).

Keupp and Gassmann (2009) proposed to put at the same level of analysis the research questions from the IB and IE domains. Both fields tackle the 'how' and 'why' questions, however, IB is more focused on the firms as basic units of analysis in terms of creating value and gaining competitive advantage on international markets. On the other hand, at the centre of IE research questions stands the problem of exploitation of opportunities as well as innovation, learning and creativity. Looking closer at the characteristic research issues common for the IB and IE fields, a 'how' question is worth attention as long as it emphasises the processual nature of international performance.

There is a clear analogy between IE and practice-based studies in terms of the issues tackled. Entrepreneurship may be perceived as a stream of activities and if it comes down to international or global context, we may understand it as activities of gaining, creating and redefining practical knowledge in the international dimension. Entrepreneurial activities are about 'jumping at opportunities' and simultaneously they may be of projective and intentional or planned character. In fact, in the IE literature, there is a vast number of works tackling the problems of uncertainty and risk-seeking behaviour (Liesch, Welch, & Buckley, 2011); motivation and past experience (Amorós *et al*., 2016); human action and entrepreneurship (Styles & Seymour, 2006); creativity (Autio, 2005); networks (Thurner *et al*., 2015); as well as the timing dimension (Aspelund & Moen, 2005). These are the aspects that direct the mode of decision taking in terms of internationalisation of an enterprise. The activities taken in order to internationalise are the results of the situational context and unpredictability, the necessities or opportunities that drive entrepreneurs to take new activities abroad, creativity, the web of interactions, the experience of past activities, as well the time pressure.

IE can be thus informed by the premises or practice-based theories that analyse the relation between activities performed on a daily basis and aspects of their change. Therefore, internationalisation is a kind of generative mechanism of activity patterns. Under situational and contextual circumstances, it can result in activity pattern reproduction, a rapid change or even disappearance of activity.

MATERIAL AND METHODS

For this study I used the data collected during four in-depth interviews in three enterprises from the textile and apparel industry in Lodz Province. The Gamma enterprise has been manufacturing denim clothes for over ten years for other brands in the women, men and children apparel industry. It cooperates with various fabric and service suppliers, such as denim laundries as well as embroidery shops and manufacturers. The Theta is the youngest of the interviewed enterprises, and at the same time it is a renowned fashion brand on the Polish market and it makes early attempts to internationalise. The main product of the brand is a T-shirt with a characteristic imprint. The Zeta enterprise is doing the inward processing. Nowadays, its customers are often premium fashion brands. When it was launched over 20 years ago it was operating mainly locally. However, at the very beginning it started to seek opportunities to develop abroad.

The methods I used comprised non-participatory observations of daily working routines and semi-structured interviews with entrepreneurs who were the (co-)owners of the enterprises. In some parts of the interviews the entrepreneurs asked their co-workers to

participate. In such cases, the owners decided to ask the co-workers to talk about the details of a particular issue or they asked them to demonstrate some parts of processes. The elicitation capabilities of the interviewer are of great importance for the richness as well as the overall quality of the data (Hamil, 2014). Therefore, in order to enrich the data, I reacted in an open, responsive manner each time I was offered a possibility of learn new details from the person directly involved in situations or processes. The methodological consequence of such situations was that the coded empirical material received an annotation of the source of additional information.

There were unified guidelines for the interviews, however, in the course of the interviews I followed the threads that were developed by entrepreneurs. The preliminary part of interviews was devoted to understanding the characteristics of a given enterprise, while the main part was focused on the product development in relation to internationalisation. Interviews were from one to two hours long and they were voice-recorded, and later transcribed. After each of the interviews I took additional notes.

During the data analysis I codified the text material. The data were coded manually using printed copies of the transcribed materials, which included notes and highlights in the texts. Coding is more about 'linking' than 'labelling' (Saladaňa, 2013, p. 8), therefore, during the data analysis procedure I took the iterative approach. In the first step, I read the transcribed material in order to understand its general meaning. After that, I looked for the most general research aspects that were supplemented with additional notes. Then, data were read very carefully, word by word, in order to highlight the phrases that are important for the very first impressions and observations. Simultaneously, I did continuous literature research. This was the preliminary stage of the coding process. I applied provisional coding, which is an appropriate method when a researcher tends to establish 'a start list' of codes that can be 'revised, modified, deleted, or expanded to include new codes' (Saladaňa, 2013, p. 121). During that time, I was recurrently making sense of the initial empirical findings through constant literature review. When I built the initial framework of the phenomena explored (I called it the institutionalisation of spontaneous actions), I started to reconfigure the initially developed codes into a more general list of categories. Since the purpose of my study was to find the repetitive activity schemas and meaning of the developed categories, I used pattern coding (Saladaňa, 2013). The process of institutionalisation of spontaneous activities provides a broader background for the aspects of reflexive and routine activities in the internationalisation that are tackled in this article. Consequently, this study explores three processual categories of the relation between reflexive and routine activities in the early internationalisation process i.e.: i) the reflexivity of actions; ii) the variability of routines reproduced in the course of internationalisation; iii) the results of new practice emergence/practice reproduction. The thematically leading category of 'the reflexivity of actions' has three other subcategories developed.

The reliability of this research is based on the logical consistency of the categories developed across cases. However, as long as there is divergence between the cases in terms of context, experience, occurrences, and individual people involved, there are similar dimensions of the process of institutionalisation of spontaneous activities in the realms of internationalisation.

RESULTS AND DISCUSSION

As a result of the qualitative research, an alternative approach to the issue of how enterprises explore internationalisation opportunities in everyday practice was proposed. The research offers a framework of the relation between various aspects of reflexive actions, routinisation, and internationalisation in the realms of everyday practice. There are identified three aspects that distinguish the reflexivity of actions: 1) acting through analogy, 2) controlled creation, and 3) intentional seeking (Table 1).

A conceptual framework of the relation between routine and reflexive actions within everyday practice is marked by at least three dimensions of the phenomena. Based on the earlier theoretical analysis as well as on continuously made observations there are some empirical categories conceptualised: i) the reflexivity of actions; ii) the variability of routines reproduced in the course of internationalisation; iii) the results of new practice emergence/practice reproduction.

We may presume that daily activities are of a different level of reflexivity. Reflexivity may be of unequal 'extent', as it relates to conscious monitoring (Giddens, 1984) and intentional or heuristic orientation (Dittrich *et al.*, 2016). There are different modes of acting (analogy, controlled creation, and intentional seeking) related to differences in the reflexivity of activities. Therefore, we may presume that there are 'high', 'medium' and 'low' extents of the reflexivity of activities.

Relatively low reflexivity of activities is when entrepreneurs meet new and unexpected contextual circumstances. In order to limit the newness of a situation entrepreneurs may act through analogy that is related to their past experience. In line with analogy the attempts go to simplify the situational newness and then, to asses relatively quickly if a situation is worth involving people, resources, knowledge, and capital. In terms of involving in new internationalisation activities, low reflexivity of actions meets the adaptation capabilities of an enterprise. Indeed, the low reflexivity does not eliminate the purposive character of undertaking new activities. The higher 'levels' of reflexivity are invoked post factum (Weick, 1995), when the results of actions may be evaluated. The question is if we may associate the enterprise that has accumulated experience with a kind of early internationalisation in case when it starts to operate in a new business area. Therefore, the problem of learning through different spillovers and capabilities is crucially important for the decision of being internationalised early (García-Cabrera, García-Soto, & Suárez-Ortega, 2017). However, learning is based on experience, and thus, analogy, regardless of whether we gain it in domestic or foreign circumstances.

On the contrary, high reflexivity of activities is when the entrepreneur has clearly defined goals in terms of internationalisation already at the beginning of his or her operating in the market. Still, in the stream of everyday reproduced practice, the results of intended activities are unknown and high reflexivity can go in line with opportunism, heuristic orientation and intentional seeking of solutions to problems.

Medium reflexivity of activities means a situation when the entrepreneur knows the overall direction of international development at the early phases of enterprise functioning. However, there are no plans that would allow them to achieve the unclear visions of goals. As long as the entrepreneur is aware of his or her attempts to achieve

development, the activities undertaken may be of creative, but at the same time, controlled character. The entrepreneur assesses the opportunities in relevance with the overall direction of international development.

The routines are of repetitive and recognizable character in everyday practice. They are performed by multiple actors that participate in interdependent activities (Feldman & Pentland, 2003, p. 93). Routines may differ in terms of the variability of reproduced activities. If the variability is relatively high or medium, the activities undertaken on an international scale start to develop into routines and new practice emerges. If the reproduced routines are of low variability, there is an existing practice reproduction. However, as far as this research is concerned with early internationalisation, it may be presumed that the observations here would be adequate to new practice emergence only.

Non-routinised activities are the kind of reaction to changing situational circumstances and opportunities. In terms of early internationalisation non-routinised activities are of reflexive character and stand for the appearance of new international practice emergence.

The Gamma enterprise was operating in the sector of denim apparel until the enterprise encountered the opportunity to launch a different line of production for a partner from Russia (Table 1). The entrepreneur emphasised several times during the interview that is was a kind of a 'shock' for them. Initially, they lacked the knowledge important to pursue new opportunity. The enterprise acted by analogy – they just started work on the templates they had got from their partner. Although it was a new form of working for them, they were able to predict some crucially important details of production since they were relying on their previous experience related to denim textiles. However, their activities were deprived of reflexively and carefully planned strategy of internationalisation. It was a spontaneous decision to enter a new market abroad. As long as the new furniture branch was working on denim materials, they adapted their previous experience to new circumstances and simultaneously, they tried to simplify the process. It is important that interactions with the new partner are based on mutual understanding – I was informed during the interview that the partner was coming to Poland to consult about the production process. The new internationalisation practice emerged as the enterprise entered the new market abroad and launched a new type of products on a regular basis. Thus, the enterprise is not a typical case of early internationalisation, but it started operating in a new branch abroad in 'a quick response' manner. There is a new area that needs further observation in the realms of early internationalisation.

The Theta company creates a new situation on its own in a kind of controlled manner. (Table 1). The medium reflexive activities are focused on learning and innovation-seeking (they launch new product). The practice is developing in the realms of knowing-in-practice i.e. learning through experience and learning by doing: 'everything can be done'. The Theta enterprise is a growing organisation and was internationalised early. It may be done by 'creative destruction' (Schumpeter, 1934) of existing practice and starting the launch of a new product. The fashion brand is fast growing and cyclical. The enterprises create new practice respectively: they develop a product quickly and vary the routines of product development process, however, the lack of distribution resources means that longer time is needed to achieve the results of internationalisation process. Theta controls and guides its actions to some extent. There is intentionality of actions in the realms of making use of knowledge and opportunities.

The case of the Zeta enterprise represents the high reflexivity of activities at the start of early internationalisation (Table 1). Entrepreneurs intentionally seek to launch the activities abroad. There was a clear vision to cooperate with demanding customers, however, at the beginning Zeta started to seek partners also among design artists. When a highly renowned customer from UK appeared, the entrepreneur intentionally 'jumped at the opportunity'. It is worth noting that the foreign partner found Zeta by chance. That situation initiated the process of learning since up to that time Zeta had no experience in sewing for premium brands: 'Oh, yes, I learnt a lot then. We all did'. The learning process can be considered as the crucial point in regard to high variability of routines. The new practice emerged, and the enterprise has gained key skills crucial to developing products for highly renowned brands.

This study suggests that early internationalisation of SMEs may be perceived through the lens of activities performed daily. I emphasise the importance of having a closer look at daily action patterns of early internationalisation and its potential to unbundle 'the black boxes' (Parmigiani & Howard-Grenville, 2011) of bigger issues of IE such as: identifying and exploiting opportunities, opportunistic activities, value (co)creation, pro-activeness, and innovativeness. While arguing that there is a relationship between reflexive and routine activities with regard to the early internationalisation process, I find evidence that there are different aspects to reflexivity. On the one hand, reflexivity relies on conscious and, therefore, very often planned activities. On the other hand, such reflexivity stands for a heuristic search for solutions to daily problems. Thus, it is connected with intentionality, even though intentional activities may seem unintended (Makowski, 2016, pp. 177-178). Everyday activities may be difficult to predict, be done by analogy, or stand as bundles of experience and responses to the situational context. Still, they can be treated as reasonable and intentional.

Empirical results show that reflexivity of actions is about references of the conscious mind to interactions, events, everyday use of artefacts and technology, rather than detailed planning. While reflexivity refers to various modes of acting, I find that what can be deemed reflexive acting in the early internationalisation context is highly varied. Moreover, I find that different extent of reflexivity goes hand in hand with differences in the variability of the routines performed daily. The research also takes into account the results of (new) practice emergence with regard to the early internationalisation process. I highlight the following three aspects of the reflexivity of actions: acting by analogy, controlled creation, and intentional seeking. I show that relatively low reflexivity corresponds with the occurrence of unexpected events. The entrepreneur may act using analogies to maintain the daily recreated practice. In fact, people can do this in order to limit the newness of unexpected situations. Here, this observation contributes to the ongoing discourse that questions the pejorative sense of customs and habits as mindless behaviour. In an attempt to trace the very roots of that kind of thinking, we can elaborate on Goffman's idea of dramaturgical action (1959). When people encounter a new activity system, they act using their repertoire of familiar modes of acting. Then, routines appear to be 'something that has to be 'worked at' continually by those who sustain it in their day-to-day conduct' (Giddens, 1984, p. 86). They can be modified or their change can evolve into a completely new category of activities reproduced daily (Stańczyk-Hugiet *et al*., 2017). This study demonstrates how relatively low reflexivity

Table 1. Reflexive and routine activities in the early internationalisation process

Categories	Intensity	Description	Illustrative data
G A M M A E N T E R P R I S E			
Reflexivity of actions Subcategories: acting through analogy	Low	Starting services for a customer operating in the furniture industry was a new, unexpected situation and context of new artefacts, aesthetic and technical forms. At the very beginning they lacked proper knowledge that could be basis of routines. During the interview, the term 'flexibility' is contrasted by the company owner with simplicity of sewing denim sofa covers and therefore, there are some analogies in production activities.	'The first time. They were completely different, some structures, huge… and then you just put it on. (…)You have to be flexible, otherwise you won't make it (…) We simply sew such covers for the sofas and then they put it on the frame.'
Variability of routines	High	The new mode of performing activities resulted in high variability of reproduced routines. However, the new line of production was fast routinised. As a result, it broadened the company's scope of operating abroad.	'We cooperate with a company manufacturing furniture'.
Internationalisation practice	Emergence	The new practice emergence was radical, quick and it has been urged by the partner who is also entering the Russian market.	'This year they went to some fair because we manufactured a lot (…) Now they found some customer from Russia. (…) We all thought for some time that everyone got bored with this, but surprisingly a new market appeared'.
T H E T A E N T E R P R I S E			
Reflexivity of activities Subcategories: Controlled creation activities	Medium	The Theta enterprise takes new opportunities to develop. They create new activities as well as new situations, however, there is no clear vision of goals. Entering foreign markets requires very different products and new distribution channels. The main product is reoriented and redesigned.	*The case of stating to sell products abroad:* '…everything can be done, for example, we now have those tank tops (…) which don't include any Polish characters'.
Variability of routines	Medium	The variability of routines is based on the readiness to create new communication forms, although it is still in the process. Although the enterprise is growing fast and it still seeks new products and markets.	'(…) but perhaps there will be some distribution (…) Well, Bread and Butter, Bright, fairs of this kind…'

Categories	Intensity	Description	Illustrative data
Internationalisation practice	Emergence *in process*	The controlled creation mode of routinisation is time-consuming. On the other hand, it needs some radical changes like launching new products. The semi-emergent process is based on mixing radical conceptual solutions with the process of searching new ways of exploring the foreign markets	'We just follow our nose. (…) You know, this is only a kind of a plan. It's not that we… This is a plan for, let's say, the next two years'.
Z E T A E N T E R P R I S E			
Reflexivity of activities Subcategories: intentional seeking activities	High	The entrepreneur's clear intention was to perform services not previously offered to foreign customers. Zeta wanted to cooperate with more demanding customers, however, at the beginning there was a vison of cooperating with design artists. After that, a premium brand international company found Zeta.	Question: Have you always planned or maybe dreamt about this cooperation with designers?' Zeta: 'More than that, I have been striving to achieve the cooperation for a long time. I attended trade fairs, I even looked for contacts in our Academy of Fine Arts, and it apparently worked after many years, they now find me more easily'. The situation of starting the cooperation with a premium brand company: 'He was looking for, I don't know, a company in Poland at the time (…)Oh, yes, I learnt a lot then. We all did'.
Variability of routines	Medium	It was crucial for the enterprise to develop some unique resources – skills and routines that stand for the enterprise's comparativeness in the international markets. Orientation towards cooperation with foreign premium brands was directed towards the variability of routines at the very beginning. When the routines achieved a certain degree of excellence, they became a standard of daily operations.	The example of finishing works:'(…) it's standard here now, but at first we were also surprised: how can you find fault with one small thread that you can't even see because it's hidden, but now…'
Internationalisation practice	Emergence	Intentional seeking resulted in new practice emergence, however, it was connected here with a relatively long learning process and opportunism. The working phase for the product required standards that were comparatively innovative at the time the operations abroad started.	'(…) And these are appliquéd fabrics, or other solutions are added… That's it. A lot of Swarovski elements… at that time Swarovski wasn't as well-known as it is today'.

Source: author's own and on the basis on Z. Patora-Wysocka (2016a, 2016b, 2017).

of actions leads to international market expansion. On the other hand, this study also provides an example of how relatively high reflexivity of actions – still under unpredictable circumstances – can result in launching a new internationalisation practice. Clearly defined goals can fuel opportunism as well as heuristic and, at the same time, 'intentional seeking' activities. Such acting meets the criteria of learning behaviour followed by medium variability of routines undergoing gradual changes until they establish a standard of the operations performed daily on an international scale. In this context, I present some evidence of new internationalisation practice emergence.

Finally, this work contributes to the understanding of medium reflexivity of actions that is accompanied by controlled creation activities. Therefore, an entrepreneur who is only at the beginning of the internationalisation process, can only be aware of the general direction of development. While the routines that are newly established in the domestic market may prompt the very first market success, they may also be creatively destroyed (Schumpeter, 1934) when getting into the international market. Lack of detailed plans how to achieve new goals appears to trigger a new mode of acting with regard to early internationalisation.

CONCLUSIONS

The practice-based perspective offers more profound understanding of the basic categories of entrepreneurship such as pro-activeness, innovativeness, opportunism, and risk-taking, as long as it tackles the 'how' research question. When looking at IE as a stream of activities, it is crucial to take into account capabilities, past experience, situational context, interactions, as well as modes of acting and taking decisions. The reflexive actions and routines can serve as explanatory categories of an early internationalisation process. The routines, increasingly, are perceived as changeable and dynamic collectives that are of twofold character. They bring together the basic aspects of organisational persistence and change. The recurrent activity schemas allow entrepreneurs to sustain a competitive advantage on the domestic market and explore opportunities to launch the activity abroad.

Notwithstanding my efforts to identify the relationships between reflexive and routine activities within the early internationalisation process, there are several limitations that otherwise might constitute interesting future research avenues. Firstly, I observed a specific issue in a particular group of enterprises, i.e. textile and apparel enterprises. This sector is, by definition, highly impacted by fashion phenomena that impose a certain pace of changes on the product development cycle. Another limitation of this study is that it discovered only three subcategories of reflexive activities as regards early internationalisation. Therefore, one could ask if the array of possible subcategories of reflexive activities is open to further exploration. Even though my research did not take the newly emerged question into theoretical or empirical account, I believe that this work contributes to the deeper understanding of the early internationalisation process, and that it sheds some new light on its potential explanatory categories.

In practical terms the research indicates that much depends on the reflexivity of entrepreneurs and in fact, it is the basis for crucial recommendation for them. During my interviews people often realized that some of the important activities were taken in an unplanned manner. Thus, the awareness of the interplay between everyday routines and reflexive activities may add to the effects of everyday business.

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The Internationalisation Process of an E-Commerce Entrepreneurial Firm: The Inward-Outward Internationalisation and the Development of Knowledge

Magdalena Grochal-Brejdak, Maja Szymura-Tyc

ABSTRACT

Objective: The article aims at the description of the internationalisation process of an entrepreneurial e-commerce trading firm, depicting the course and mechanism of the process.

Research Design & Methods: The explorative research is a single case study of three internationalising e-stores managed by a firm. The qualitative analysis is based on in-depth interviews with the entrepreneur covering six years of the firm's operation.

Findings: The increasing international involvement of the e-commerce firm follows the development of knowledge derived from the interrelationships between inward and outward internationalisation. The evolution of internationalisation forms is limited to trade (importing/exporting) and contractual cooperation. The role of entrepreneur in the internationalisation process of e-commerce firm is crucial.

Implications & Recommendations: The simultaneous involvement in the inward and outward forms of internationalisation enhances the development of knowledge necessary for further internationalisation of e-commerce firms.

Contribution & Value Added: The study presents a holistic description of the internationalisation process of an entrepreneurial e-commerce firm, revealing the mechanism of the process.

Article type:	research article
Keywords:	e-commerce; entrepreneurial firm; inward-outward internationalisation; process; knowledge
JEL codes:	F23

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INTRODUCTION

The significance of e-commerce in the global economy is rising, which is observed in the growth of sales, the number of customers and firms engaged in on-line transactions (e.g. https://ecommercenews.eu/ecommerce-europe-grows-19-percent-2017/). Simultaneously, e-commerce is becoming increasingly international i.e. the transactions span firms and customers from distant countries and different economies (Terzi, 2016).

At the firm level, the phenomenon of international e-commerce manifests itself in the development of supplementary Internet-based channels of international trade, which enhance the internationalisation of traditional manufacturing or service firms (e.g. Frąckiewicz & Grzesiuk, 2013; Guercini & Runfola, 2015; Plakoyiannaki, Pavlos Kampouri, Stavraki, & Kotzaivazoglou, 2014; Rana & Sørensen, 2013). Moreover, the internationalisation of e-commerce is related to the establishment of a new type of firms named 'e-commerce firms'. This is a wide group of firms which are, in general, defined as enterprises engaged in electronic commerce from inception (Singh & Kundu, 2002), with essential turnover derived from online transactions. E-commerce firms are highly differentiated by their main activity (trading, service and production firms), type of products offered (digital or tangible goods and services) to diverse customers, representing various e-business models (e-stores, international intermediary platforms, etc.), having a different size, managed by the owner (entrepreneurial or family firms) or by professional managers. Their common characteristics is taking advantage of the Internet-based information and communication technologies (ICT) to expand sales domestically and internationally. Like other Internet-based firms, they internationalise their activity easier and faster than traditional firms (Fang, Tung, Berg, & Nematshahi, 2017; Forsgren & Hagström, 2007; Kim, 2003), but their internationalisation paths might differ depending on various factors (Anwar, 2017; Grant & Bakhru, 2004; Gregory, Karavdic, & Zou, 2007; Turban *et al*., 2018).

There is a number of papers investigating *factors* influencing the internationalisation of e-commerce firms (e.g. Abbad, Abbad, & Saleh, 2011; El Said & Galal-Edeen, 2009), in many cases examined together with other firms conducting business with the Internet use, named 'online firms', 'ibusiness firms', 'e-business firms', 'Internet-related' and 'Internet-based firms'. However, very little is known about the *process* of the internationalisation of e-commerce firms, i.e. *why* and *how* these firms internationalise and what *mechanism* stays behind the process. The literature review shows that only three papers raise this issue (Fang *et al*., 2017; Forsgren & Hagström, 2007; Kim, 2003), providing only partial answers to the above questions.

The article aims at the description of the internationalisation process of a young, entrepreneurial e-commerce micro-firm, offering tangible goods to business and individual customers. It depicts the course, stages and mechanism of the internationalisation process. The single case study based on three internationalising e-stores managed by the firm shows that the process of the firm's internationalisation is driven by knowledge development in interrelationships between inward and outward internationalisation, supported by the intra- and inter-organisational developments, and the individual aspirations, proactive attitude and international orientation of the entrepreneur.

The first section of the article presents theoretical background for formulating the research assumptions for the exploratory study. In the second section the methodological

assumptions are presented, followed by the description of the data collection process and presentation of the method of qualitative analysis. The third section shows the research results and findings, followed by discussion. The last section includes the conclusions and research limitations together with suggestions for further studies.

LITERATURE REVIEW

Welch and Luostarinen (1988, p. 36) define the internationalisation of firms as 'the process of increasing involvement in international operations'. This broad definition represents a dynamic approach to the description of this phenomenon and includes different types and forms of firms' internationalisation. Particularly, their conceptualisation embraces both the outward and the inward forms of firms' internationalisation. While the focus of the IB researchers is on the outward forms of internationalisation, less is known about the inward internationalisation and its linkage with the outward internationalisation. This manifests in a lack of more comprehensive theoretical concepts and empirical research, which would consider the inward-outward interconnections, and calls for taking a holistic approach to the internationalisation of firms (Fletcher, 2001, 2008; Karlsen *et al*., 2003).

Firm's Internationalisation Process and Knowledge Development

The core of the contemporary theory of firm's internationalisation is the description of the outward internationalisation process: the conditions, progress and mechanism of internationalisation in a longer or shorter period of time.

The most commonly discussed model deriving from this approach is the Uppsala model of firm's internationalisation (U-model) (Johanson & Vahlne, 1977; Johanson & Vahlne 1990; Johanson & Wiedersheim-Paul, 1975; Welch & Luostarinen, 1988). In this model, the objective of analysis is individualistically considered firm and the progress of the internationalisation of its activities, especially foreign sale and production. The Uppsala model describes the internationalisation process as gradual, cumulative or incremental, stage, sequential or evolutionary and long-lasting. The internationalisation of a firm is preceded by its success in a domestic market, and the international expansion starts from the markets relatively close to the domestic one in terms of geographic and psychic distances. A firm begins the internationalisation from non-regular export activity, and subsequently – exports through independent representatives, establishes foreign sales subsidiary and finally – foreign production subsidiary. Sometimes, the description of the internationalisation process is complemented by the authors of this model with additional stages including the activities preceding export (Wiedersheim-Paul, Olson, & Welch, 1978).

The mechanism of the internationalisation process is described as a process of learning from firm's experience in the internationalisation process, enabling progress in its international involvement. The *exploitation* of the *experiential knowledge* acquired by a firm through gaining experience in conducting operations in the international markets is followed by an increase in resource involvement in the activities in foreign markets (*market commitment*) (Johanson & Vahlne, 1977). The *experiential market-specific knowledge* resulting from the experience in operating in a foreign market and the *general knowledge* related to the specific firm's activity as well as the execution of international operations are usually transferable within the firm. They enhance the current international performance of the firm and are necessary to facilitate the firm's further expansion to more

distant markets by reducing the risk of increasing resource commitment in the international market (Johnason & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975).

In the early 2000s, Johanson and Vahlne presented a revised model of internationalisation process of firms named the 'network model of internationalisation process' (2003) or 'a business network model of the internationalisation process' (2009). The model encapsulates changes in the forms of firm's internationalisation (i.e. the development of the network, contractual, non-equity forms) and indicates new paths of learning, i.e. learning from past experience in another firm (concerns entrepreneurs and firm's managers) and the *knowledge exploration* by mergers, alliances and relationships in business networks. The model still describes the internationalisation process of a firm as gradual, incremental and evolutionary, though it assumes that the process may be accelerated and the sequence of stages is losing importance, since the knowledge necessary for internationalisation development may be acquired from the outside of the firm (*learning in network*). They agree with the researchers who ascertain the diminishing importance of psychic distance (Knight, Madsen, & Servais, 2004; Madsen & Servais, 1997) and point to the embeddedness of a firm in an international network as a means of uncertainty reduction in the internationalisation process. The *liability of foreignness* (psychic distance) is less relevant than the *liability of outsidership* (lack of ties in an international network), which hinders the progress in the internationalisation process of individual firms (Johanson & Vahlne, 2009).

When it comes to the firm's knowledge developed by experience (*experiential knowledge*) and the knowledge developed by business relationships *(relationship-specific knowledge*), some new findings have been added by Erikkson, Johanson, Majkgård and Sharma (1997), and Hadley and Wilson (2003). These authors have indicated that besides experiential market-specific and internationalisation knowledge a firm may gain access to *foreign institutional knowledge* and *foreign business knowledge* available in the international network in which the firm operates. Erikkson *et al*. (1997) stressed that some types of knowledge are accessible only to the network insiders, and the commitment to partners makes gain from their knowledge exploration to create new opportunities to internationalise possible. However, Hadley and Wilson (2003) emphasise that the quality of the knowledge and the ability to make use of it depends on the degree of the firm and network internationalisation.

Another amendment to the U-model (Johanson & Vahlne, 2009) is related to the addition of trust-building and knowledge creation to the mechanisms of change. Trust is considered as one of '(...) the basic prerequisites for developing business' (2009, p. 1421), which together with learning and commitment enables the opportunity of development.

Inward-Outward Internationalisation and Knowledge Development

The widely observed phenomenon of the development of mutual and multifaceted relationships between inward and outward internationalisation (Luostarinen & Hellman 1993; Luostarinen & Welch, 1990; Welch & Luostarinen, 1993), generates a call for a holistic approach to firm's internationalisation process (Jones, 1999; Fletcher, 2001; 2008). This proposal assumes the examination of the interconnections between different forms of both inward and outward internationalisation of a firm, including the contractual or network forms (Fletcher, 2008). The issue of *learning to internationalise* by inward forms of internationalisation (i.e. indirect and direct import, obtaining license or franchise

from abroad, participation in international joint venture in the domestic market, or contract manufacturing at home) is neglected in the main stream of internationalisation studies. Luostarinen, Welch and Hellman (Luostarinen & Hellman, 1993; Luostarinen & Welch, 1990; Welch & Luostarinen, 1993) indicated the existence of varied interplay connections between these two types of internationalisation. Consequently, Luostarinen and Hellman (1993) distinguished other four stages of internationalisation: the domestic stage – when a firm is not involved in any activity in a foreign market; the inward stage – when the internationalisation is based on import or the purchase of a licence; the outward stage – including export, sales or production subsidiaries, sale of a licence and cooperative agreements with foreign partners; and the cooperation stage – pertaining to the cooperation in an international network.

The influence of inward internationalisation on outward internationalisation is supported by the fact that the relationships with foreign suppliers may be a source of the firm's foreign market-specific knowledge and foreign business knowledge. It may facilitate the establishment of the network relationships leading in a longer period to receiving orders from foreign customers, i.e. to outward internationalisation (Luostarinen & Hellman, 1993; Welch & Luostarinen, 1993). The process of inward internationalisation also determines the performance and success of foreign expansion in a long perspective, as indicated by the case of SMEs (Holmlund, Kock, & Vanyushyn, 2007; Li, Yi, & Cui, 2017). The authors (Fletcher, 2001; Korhonen, 1999; Welch & Luostarinen, 1993) undertaking the issue of inward-outward interconnections argue that outward internationalisation is reflected in inward internationalisation: as foreign involvement of an enterprise increases, a parallel increase in the internationalisation of domestic activity may be observed.

Hernandez and Nieto (2016) assume that the connection between inward and outward activities is knowledge-related. In the conducted study, these researchers indicate that the simultaneous undertaking of inward and outward operations influences the turnover growth more than the involvement in only one type of international operation, and that such an effect is even stronger, if both types of operations are performed in the same foreign market. Similar findings derive from Grosse and Fosneca's (2012) research, who state that import activity enables learning which is the source of firms' benefit, and brings the access to foreign knowledge, suppliers and markets.

An interesting insight into the inward-outward internationalisation linkages is given by Freeman, Deligonul and Cavusgil (2013), who presented how inward-outward activities are used by born-global managers in difficult periods of economic decline. The interchangeable implementation of inward-outward activities enables strategic restructuring of firms, which is reflected in the occurrence of de-internationalisation and re-internationalisation phenomena in the internationalisation process.

The Internationalisation Process and Knowledge Development in SMEs – Selected Findings

In parallel to the development of the Uppsala model, the subject literature also describes concepts of accelerated and early internationalisation, and non-linear internationalisation.

The phenomenon of the accelerated internationalisation of firms refers particularly to small and medium-sized enterprises (SMEs) (Bell, 1995; Coviello & McAuley, 1999). These firms were rarely the objects of the interest of IB researchers in the past, but nowadays their international experience is the foundation of the research on international entrepreneurship (Coviello & Jones, 2004; Dimitratos, Voudouris, Plakoyiannaki, & Nakos, 2012;

McDougall & Oviatt, 2000; Oviatt & McDougall, 2005). Early internationalised firms launch foreign expansion immediately or soon after inception, considering the global or international market as the target of their activity (Knight & Cavusgil, 1996; Ciravegna *et al.*, 2018). These firms use their limited resources, especially only those based on knowledge (technology, skills, know-how), to create a competitive advantage in international or global markets (Coviello & McAuley, 1999; Oviatt & McDougall, 1994).

Ciravegna *et al*. (2018) state that different reasons lead to the early internationalisation of entrepreneurial firms. In their search for the causal antecedents of early internationalisation, they found a combination of reactive type of entrepreneur (aware of risk, unprofitability of export markets and limitations of the domestic one), and the antecedents of early internationalisation, such as unsolicited orders reception and the existence of foreign-market opportunities, which such an entrepreneur utilises in the firm's internationalisation. This stays in line with Loué's (2018) results showing that exporting entrepreneurs distinguish the detection of business opportunities skills, among other things. Additionally, Tiwari and Korneliussen (2017) findings on resource-poor micro-firms show that their internationalisation depends on the entrepreneurs' experiential knowledge, acquired from prior experience, participation in international trade fairs and social networks.

While the focus of researchers working on stage models has been put on the internationalisation of sale and production, in the case of early internationalised firms the subjects of research on internationalisation also concern other activities of the value chain and value creation (Oviatt & McDougall, 1994; Sainio, Saarenketo, Nummela, & Eriksson, 2011). Moreover, the international operations considered may be outward-related (e.g. export activities), inward-related (e.g. import activities) or linked (e.g. countertrade), and be subordinated not even to the ambitions of the foreign expansion, but to the general development of an enterprise (Jones, 1999).

Some authors also notice the neglected issue of the nonlinearity of the internationalisation of firms, especially in the case of born globals or 'knowledge intensive' firms, which is expressed in the emergence of the phenomena of de-internationalisation and re-internationalisation (Bell, McNaughton, & Young, 2001; Vissak, 2010). De-internationalisation is defined as a process of internationalisation that cannot be proceeded voluntarily (Benito & Welch, 1997) or intentionally (Calof & Beamish, 1995), while re-internationalisation is understood as specific behaviour of firms which return to given markets in some time after withdrawing (partially or entirely) from them (Loustarinen, 1979). Oviatt and McDougall (1995), Wickramasekera and Bamberry (2003), as well as Zahra (2005) show that, particularly in case of the inexperienced young firms with limited resources and access to an international network, accelerated internationalisation contributes to the emergence of difficulties, leading to the occurrence of the aforementioned phenomena of de- and re-internationalisation.

The Internationalisation Process of E-Commerce Firms – Empirical Research Review

As mentioned in the introduction, though the literature on e-commerce as an economic phenomenon is quite rich, when it comes to e-commerce firms and their internationalisation, it is relatively scarce and disputable in terms of e-commerce firms' definition and the internationalisation process.

There are few papers in which the issue of virtual export is analysed, but mainly in reference to the traditional firms which have started a direct sale through the Internet, complementing the prior sale executed by foreign intermediaries (Andersen, 2005;

Bennett, 1997; Hinson & Sørensen, 2006; Morgan-Thomas & Bridgewater, 2004; Sinkovics, Sinkovics, & Jean, 2013). Still, these are not descriptions of the internationalisation process focusing on e-commerce firms exclusively. This group of studies also includes research on determinants influencing the export of e-services (Javalgi, Martin, & Todd, 2004). The most detailed descriptions of the process of the internationalisation of e-services firms (among which e-commerce firms can be found) are provided in papers by Wentrup (2016) and Blagoeva Hazarbassanova (2016). Wentrup (2016) indicates that the choice of the mode of foreign market entry is determined by online-to-offline interval of the presence of online service providers. The author also states that the internationalisation path of the researched firms is contrasting to the one known from the U-model. In turn, Blagoeva Hazarbassanova (2016) concludes that the source of the differentiation of the internationalisation processes is the diversity of the value propositions of e-service firms.

Actually, only three papers authored by Kim (2003), Forsgren and Hagström (2007) and Fang *et al*. (2017) attempt to describe the internationalisation process of e-commerce firms in relation to the original Uppsala model. Kim (2003) focuses on the Internet portals, which he describes as 'a major US Internet-only firms', and qualifies them as e-commerce enterprises. Kim (2003) applies a range of quantitative methods of data analysis to indicate that the internationalisation of e-commerce firms is likely to be a process taking place in stages, but he does not distinguish these stages. The analysis also lacks a description of the mechanism and the dynamics of the process.

Forsgren and Hagström (2007) focus on the behaviour of Internet-related firms (among which there are three e-commerce firms) during their internationalisation, as well as the extent to which such behaviour can be explained by the mechanism known from the Uppsala model. These researchers indicate the discontinuity of the internationalisation of the analysed Internet-related firms and the limited incremental nature of the process. In the case of all researched firms the international expansion is a top priority in the overall strategy; nevertheless, the pace of internationalisation is differentiated. The investigation reveals that at the beginning of internationalisation, Internet-related firms choose markets close to the domestic one in term of psychic distance, because of the similarity in technological development. The main form of internationalisation in the case of B2B firms is acquisition, hence the stage of experiential knowledge has been passed over and the process is accelerated. The authors ascertain that lots of internationalisation behaviour and acceleration of the process may be explained by the network approach to internationalisation, especially by stakeholders' pressure on international expansion. Forsgren and Hagström (2007) also include the aspect of co-evolution in reference to network relationships. Nevertheless, the outcome of their research also does not provide a description of the internationalisation process stages, nor a mechanism behind the course of the process, and ignores the stage of inward internationalisation.

Fang *et al.* (2017) describe the internationalisation process of Scandinavian firms, among which one is an e-commerce firm. The e-commerce firm is distinguished among others by a strong born-global orientation, and when it comes to its internationalisation process course – the 'leapfrogging' the export stages and implementing the joint venture strategy. The elements of the U-model mechanism, i.e. risk minimisation, learning, resource commitment, opportunity of development, and the network position can also be

found in the description of the firm's internationalisation, though as the features which slow down the whole process, and not as a revealed mechanism of the process.

RESEARCH CONCEPT, METHODOLOGY AND DATA COLLECTION

The literature review presented above entitles the adoption of research assumptions underlying the explorative study. First, the internationalisation process of a firm is usually gradual, stage and evolutionary, though the speed of the process and the stages may differ depending on the type of the firm and other circumstances. Second, the mechanism underlying the internationalisation process of a firm is learning by experience or in network related to the commitment of resources devoted to internationalisation. Third, both inward and outward internationalisation allow for the development of knowledge necessary to internationalise. The fourth assumption concerns SMEs, in particular entrepreneurial firms, which in many cases undergo the accelerated internationalisation process based on internal and external sources of knowledge, in particular experiential knowledge of different type acquired by the entrepreneur.

The review of empirical studies on e-commerce firms' internationalisation revealed an essential research and knowledge gap concerning the internationalisation process of these firms. Although little is known about the main features of the process, there is lack of knowledge about the internationalisation process of selected types of e-commerce firms. Since Polish e-commerce enterprises are mainly trade entrepreneurial micro-firms, this led us to pose a research question:

> *How* and *why* does e-commerce entrepreneurial micro-enterprise internationalise, and what *mechanism* stands behind the progress of the internationalisation process?

The greatest challenge related to the description of the process of internationalisation is in the identification of the *mechanism* explaining the sequence of events. According to Welch and Paavilainen-Mäntymäki (2014): 'process theorizing can be viewed as a continuum, with distinctions drawn between 'weak', 'stronger' and 'strongest' process theorizing' (2014, p. 5). In this article, we attempt to make a step towards 'the stronger theory', in which the theory of the process discloses the mechanism determining individual phases in the described model.

The nature of the process of internationalisation, including the context in which a firm operates, i.e. environmental conditions and firm's relationships, is very complex. Therefore, a qualitative analysis based on the case study method seems to be the most appropriate choice for an in-depth analysis of the activities constituting the process, their sequence and mechanism that links them (Madsen & Servais, 1997; Yin, 1994).

The firm chosen for the study is an e-commerce entrepreneurial micro-firm engaged in trade of tangible goods offered to both business and individual customers. This is relatively a young firm, established in 2012, and managed by the owner. It is involved in both import and export activities on the international market conducted by three e-stores managed by the owner of the firm.

The empirical material used in the study comes from a series of semi-structured in-depth interviews and talks with the entrepreneur undertaken between May 2016 and August 2018. Each in-depth interview lasted about 90 minutes, and the transcriptions were

checked by the interviewee. Complementary data were gathered from the firm's websites and their reliability was revised by the interviewee.

RESEARCH RESULTS, FINDINGS AND DISCUSSION

SGroup is a young, entrepreneurial e-commerce micro-firm established in 2012. The SGroup business began from e-commerce of tangible products for business and individual customers. It has been complemented by consulting services conducted by the owner. The fast developing e-commerce business has been executed by three e-commerce stores:

- EP – e-store offering ergonomic home and office products for business and individual consumers, established in 2012;
- 4KP – e-store offering products for kids and youth mainly for individual consumers, established in 2015;
- CP – e-store offering sports products mainly for individual consumers, established in 2015 and suspended in 2018.

Since the establishment, all e-stores have been engaged in the ongoing internationalisation process, which has progressed differently in the case of each store. The first two e-stores: EP and 4KP, continue their international activity, while the CP e-store operations have been suspended after three years of operation, because of unsatisfying financial results. The process of internationalisation of the three e-stores is depicted in the Figure 1 and described in detail below.

EP E-Store

Interrelationship Between the Inward and Outward Internationalisation

The internationalisation process of EP e-store started in 2012 with indirect import of ergonomic home and office products from local distributors and agents for domestic market customers. Soon after the inception, direct import from Germany, Czechia, Taiwan and China was established to extend and differentiate the offer in comparison with the rival firms.

In the second half of 2012, EP e-store received unsolicited orders from Lithuanian, German and Czech firms. The orders could not be executed due to obstacles deriving from the trade contracts concluded by the SGroup with German and Czech business partners: the SGroup could not re-export their products. Therefore, the SGroup owner decided to produce his own ergonomic products on the basis of contract manufacturing. The manufacturing contract with a Chinese producer spanned the second half of 2012 and the end of 2013. However, export of these products failed because of limited ability of stocking required in servicing large markets.

In 2017, the trade contracts with German and Czech firms that had hindered re-export, expired. Hence, successive unsolicited orders from Lithuanian, Germany and Czechia received by EP, initiated sporadic direct export. The orders were mainly made by trading firms, looking for low-price products to resell them in their domestic markets.

At the same time, the owner also started to check other opportunities to internationalise the EP-store. He monitored prices in the neighbouring countries on the market of

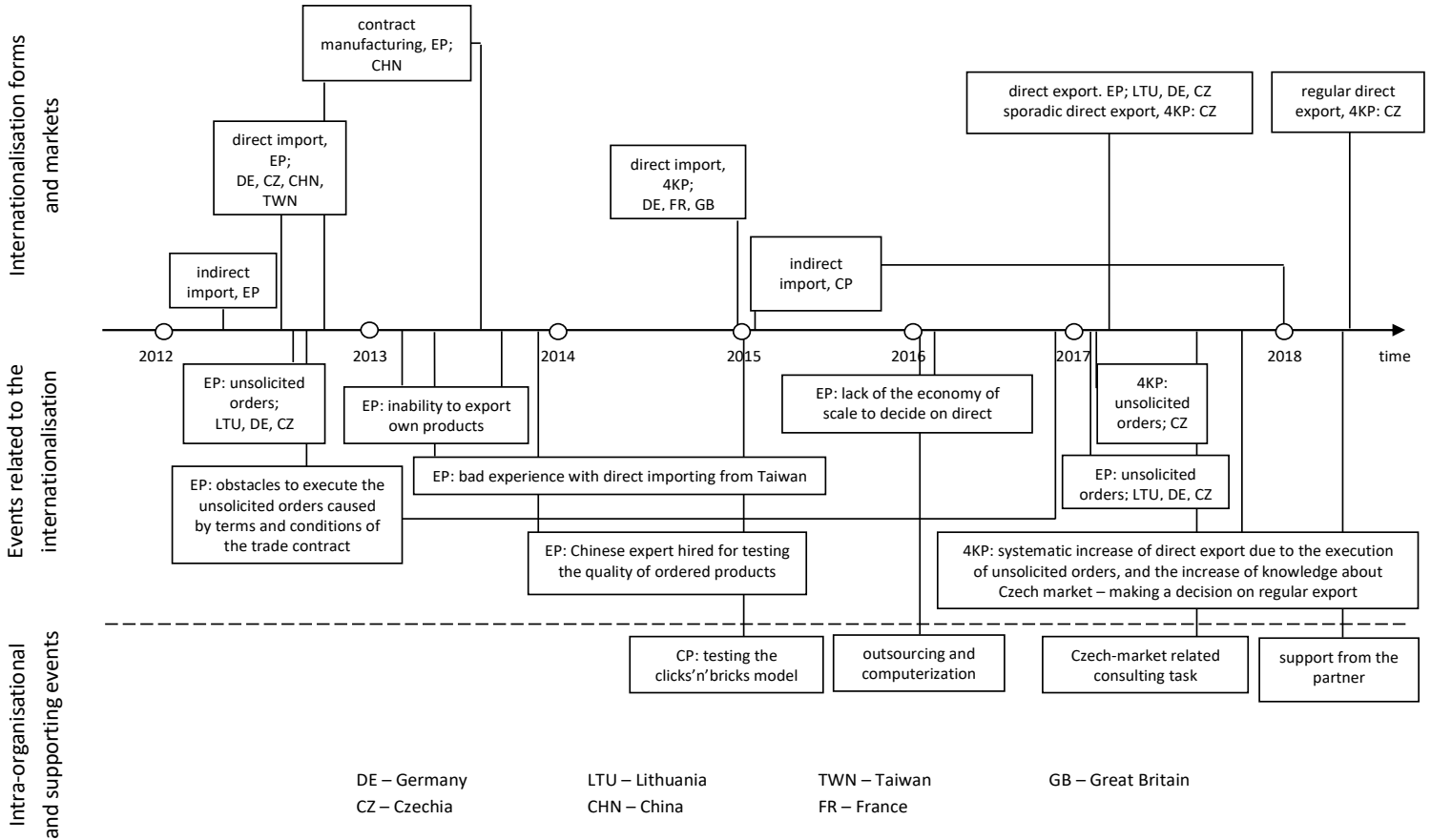

Figure 1. Crucial events comprising the internationalisation process of SGroup e-stores

Source: own elaboration.

ergonomic home and office products. Unfortunately, the ergonomic products market turned to be so niche that the transportation costs and other fixed costs could have impeded obtaining a profit at the existing scope of activity.

Trust Building in the International Relationships

In the opinion of the owner, import experience is strongly associated with the issue of trust. First, direct import from Taiwan was a real 'test' for his nerves, when a big part of commodities could not be sold because of manufacturing defects. Lessons were learnt, and to avoid such situations in the future, a new procedure of quality testing has been introduced. Now, the owner checks the credibility of Chinese contractors: firstly in public commercial register, then at their customers from the Western Europe. Then a small amount of goods is bought to test their quality before its introduction to the market. Trade contracts are very often signed during the European fair trades. Additionally, since 2014, product lines ordered by EP have been checked in Chinese factories by a local expert, who is well-known to the SGroup owner's friend.

Lack of trust in import-related relationships has also a contrary effect: in the case of a sale transaction with no prepayment or trade credit, some contractors of e-stores of SGroup check the financial credibility in a variety of ways. The issue in question has reminded unchanged over the years – the owner of SGroup has been dealing with this practice from the beginning of operations up to now, also in relation to long-time contractors.

In order to answer the question on how to manage the surprisingly stressful and risky import issues, the SGroup owner said: *'Flexibility, willingness to take the risk, not avoiding greater expenditure to test the imported products, checking the contractors, and, at the same time, building the relationships. These are the crucial features and activities leading to the successful import'*.

4KP E-Store

Evolution from Direct Importing, through Sporadic to Regular Exporting

The greatest commitment of the SGroup owner has been related to the international activity of 4KP offering products for kids and the youth. Direct importing from Germany, France and Great Britain has been undertaken since the establishment in 2015 (i.e. from the inception of this e-store). First unsolicited orders from abroad (Czechia) were received at the beginning of 2017. At the same time, the owner of SGroup worked on the Czech market analysis, as a part of the consulting activity, and noticed favourable margins. A thought crossed his mind that he had achieved a lot on the domestic market and it was worth going further. The number of unsolicited orders was increasing systematically. Along with the geographic proximity of the Czech market and the achievement of the economy of scale of the 4KP operations, the decision about direct export to the Czech market was taken in autumn 2017.

Orders from individual Czech clients emerged in 4KP without prior advertising on that market. The owner suspects that the information about the offer spread through the social media. Despite the only Polish version of the e-store till September 2018, the Czechs managed the shopping with no need for help from the customer service of the e-store. Moreover, the Czech consumers' openness and trust to online shopping were another argument in favour of the direct export to that market.

Development of Activities Supporting Internationalisation

Increasing turnover generated by the Czech clients, as well as the geographical proximity allowed the firm to negotiate favourable conditions of the contract with the German logistics enterprise operating in the Polish market. The cost-efficiency of shipping increased enough to keep the entire margin as the e-store's profit. This issue is essential because of the possibility of free return of products within 14-days from the online purchase in Member States of the European Union.

The domain name, 4KP, remains unchanged on the Czech market because of its international character. The layout of the e-store is not going to be changed as well. Both sites will operate on the same 'engine' and use the same computerisation of processes. According to the SGroup owner, there is no need to invest in new IT solutions if the current ones work well – this kind of e-store can be multiply replicated on the basis of one 'engine'.

Along with the decision on the direct export to the Czech market, cooperation has been established with the Polish SEO (Search Engine Optimization) agency employing the Czechs. The agency is responsible for the optimisation of the Czech version of the e-store, including popular Czech search engines, as well as for the Internet promotion in the Czech language.

Development of Foreign Institutional Knowledge

At the present stage of preparations to the direct exporting to the Czech market, the biggest challenge links to the adaptation of the terms and conditions of the sale to the Czech law. This issue is facilitated by the harmonisation of the Community law resulting from the Directive on consumer rights, aiming at the facilitation and stimulation of the international trade, as well as an increase in the trust to e-commerce.

As the SGroup owner commented, the Directive has certainly improved the resolution of the disputes emerged in reference to the online transactions. At the same time, the law has been standardised enough to lower the perceived psychic distance regarding the differentiation of the conditions of managing the e-stores in different Member States of the European Union. The relatively harmonised law in the EU area, as well as the fact that the trade contracts concerning the sale in the Czech market have already been concluded, caused that there is no plan to register a new entity in Czechia. Despite the commonly known fact that the Czech customers prefer Czech firms, the SGroup owner argues that establishing an enterprise in Czechia would complicate the accounting matters in the Polish entity.

CP E-Store

CP e-store offering sports products has been: *'(...) a lesson on keeping the focus on the e-commerce activities, and not dividing it into the Internet and traditional sales'*, as the SGroup owner admitted. The products were imported indirectly, and more advanced forms of internationalisation had not been developed. To jump on the bandwagon of the multichannel marketing, the SGroup owner decided to test a different e-business model, namely clicks'n'bricks. CP stationary store was opened in the most populous city of Silesia, Katowice. At that time, the following tools of mass communication were used: radio advertisements and billboards, but all turned to be ineffective. CP stationary store was closed

after a year of operating, to avoid loss caused by lack of sufficient revenue and costs related to renting the place and the storehouse, staff employment and control duties.

Since that experience, the SGroup owner has decided to go back to the prior concentration strategy, focusing on the e-commerce market, and not to involve any other of his e-stores in traditional sale, '(...) *even if the* [outward] *internationalisation of the e-store is doomed to fail'* – as the owner added.

Knowledge Development in SGroup

General and foreign business knowledge of the owner of the SGroup related to the e-commerce activity has developed not only in each of the e-stores, but has also been acquired from the consulting activity. Consulting services give the entrepreneur an access to the new ICT solutions that facilitate the management of the e-stores. They also support the development of the foreign institutional knowledge concerning the legal environment of conducting e-commerce activities in the European Union market.

The experiential market-specific knowledge of the entrepreneur was firstly acquired through the operations on the domestic market and the inward internationalisation of the EP e-store. The development of internationalisation knowledge by indirect and direct importing, enabled the immediate inward internationalisation of the 4KP e-store through direct import and was necessary to start the export operations: sporadic, executed by the EP e-store, and regular, executed by the 4KP e-store. The both e-stores have also acquired the specific-market knowledge about the export markets. Each of the SGroup entities has additionally developed the relationship-specific knowledge from the domestic and foreign partners, facilitating further inward and outward internationalisation of the firm by access to their business and internationalisation knowledge.

Inter-Organisational Development of SGroup

Exploiting the rich know-how of external entities is considered by the SGroup owner to be one of the main advantages of outsourcing. *'It is better to manage than to make something on your own, and there is also the matter of the responsibility'* – admitted the SGroup owner. In reference to the direct importing and exporting, he said that outsourcing facilitated it significantly – the external firms are also responsible for attestation of products, as well as accounting and customs-related issues.

The systematic increase in the number and quality of relations with business partners is observed parallel to the internationalisation of SGroup e-stores. The owner's experience shows that currently there are quite many firms in the market which strongly 'invest' in the success of international projects of their contractors through the transfer of knowledge and information. The SGroup owner himself, when conducting the consulting services, struggles to provide customers with the maximum of information because: *'(...) the more a customer knows, the greater is his awareness while making decisions, and everyone profits. Firms which cooperate for a longer period with SGroup e-stores, offer far more detailed and helpful knowledge, whereas in a cooperation with the new firms, the transfer of such knowledge is a matter of building trust'*.

Encapsulating the results of the case study of the internationalisation process of three e-stores managed by the examined firm, one may define it as an e-commerce entrepreneurial micro-firm and, according to Vissak and Masso (2015) typology,

a 'faster moderate internationalizer', which means that the firm has been internationalised within four-six years since the establishment. The internationalisation process of the studied e-commerce firm is accelerated, as in case of the similar firms researched by Forsgren and Hagström (2007) and Feng *et al*. (2017).

The internationalisation process of the SGroup e-stores is gradual and evolutionary as it comprises stages of the inward forms of internationalisation (indirect and direct import), linked internationalisation (direct import with simultaneous sporadic export and contract manufacturing), and another stages of inward forms and linked internationalisation (with direct import and sporadic export, and regular export soon after). There are no premises that the researched firm will use the capital forms of internationalisation, which stays in a line with Zekos (2005) findings. As long as the export-forms generate targeted profit, and no other circumstances force to more advanced forms of the internationalisation (i.e. foreign subsidiary), none of them is implemented (Zekos, 2005). Similar findings derive from the quantitative research on the internationalisation process of Polish e-commerce firms, which shows that only 22.6% of a sample of 259 internationalised e-commerce firms is present in foreign markets on the basis of contractual or investment modes of entry (Grochal-Brejdak, 2016).

The increase in the firm's experiential market-specific and general (business and internationalisation) knowledge deriving from the inward activities let to the subsequent more advanced stages in the internationalisation process of the SGroup e-stores. Hence it can be said that the mechanism of internationalisation by learning, known from the Uppsala model of internationalisation (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975), is also reflected in the case of the e-commerce firm. The elements of change in the revised U-model (Johanson & Vahlne, 2009), namely trust-building and knowledge creating, are other drivers of the internationalisation process visible in the case of SGroup. The knowledge that is used in each of SGroup undertakings is mostly the entrepreneur's own knowledge. It is not an organisational knowledge which could be linked with a firm. Such a situation is very specific to micro-firms managed by the owners.

The perceived risk during the preparation phase of the direct export to the Czech market, as well as the perception of the psychic distance has been minimised by the awareness of the SGroup owner of firm's position in the domestic market and the experience acquired in the inward internationalisation. This stays in line with the results of other research in which inward internationalisation led to the engagement in outward activities (Grosse & Fonseca, 2012; Holmlund *et al*., 2007; Li *et al.*, 2017; Luostarinen & Hellman, 1993). Geographic proximity of the targeted market is another factor lowering the risk perception, but in the case of internationalisation of 4KP, it was even more crucial in terms of costs and profitability of the whole undertaking. However, the main trigger to focus on the Czech market were the unsolicited orders, which would have probably not appeared if not for the similarity of the Polish and Czech languages. Such an explanation is supported by the results of research on the influence of a language on the choice of foreign markets in international expansion of CEE firms (Gorynia, Nowak, Trąpczyński, & Wolniak, 2014; Musteen, Datta, & Butts, 2010; Sass, 2012; after: Caputo, Pellegrini, Dabić, & Dana, 2016). One of these studies strictly indicates that the internationalisation of firms progresses faster if it takes place in the markets of common or similar language (Musteen *et al.*, 2010).

Although possibilities given by the technology are indisputable, still more than a half of Polish e-entrepreneurs have not undertaken even the inward internationalisation – even after 3-5 and more years from the inception (Internet Standard, 2018). A comparison of these data with the example of SGroup manager may affirm Andersson's (2000) findings that if internationalisation is the objective of an entrepreneur from the very early stage of operating, it starts to be a firm's routine and a knowledge base. Also Freeman *et al.* (2013) indicated that 'the entrepreneur is central to the internationalization process' (2013, p. 156). Outward internationalisation of e-commerce firms seems to be always intentional, regarding the fact that these firms are exposed to the global market *per se* and only the minority takes the advantage of this fact. Therefore, factors influencing internationalisation and manager's attitude towards internationalisation in the e-commerce sector appear to be another interesting matter for further in-depth investigation.

CONCLUSION, LIMTATIONS AND FURTHER RESERACH

The findings of the study refer to the process of the internationalisation of an e-commerce entrepreneurial micro-firm trading tangible goods via e-stores. They show high importance of the inward-outward internationalisation relationships in the development of different types of knowledge necessary for the internationalisation of the firm. They also ascertain the crucial role of the entrepreneur in acquiring and developing the knowledge, as well as his international orientation present from the inception of the firm. The process of the internationalisation of the e-commerce firm is accelerated, stage, and evolutionary, but the forms of internationalisation are limited to trade and contractual ones.

The main limitation of the study is that it is based on a single case of an e-commerce entrepreneurial firm conducting international trade in tangible goods with the use of online store only. The fact that the studied firm is an entrepreneurial trading enterprise, the traded good are tangible, and the business model is limited to the e-stores, may have influence on the course and mechanism of the internationalisation process.

The inward-outward relationships in knowledge development may turn out not so important for production or service firms engaged in e-commerce. For firms offering services on the international market, the network relationships may be more significant. The capital forms of international involvement may be of some importance to firms implementing online-offline business models. The experiential knowledge of the entrepreneur may not appear so valuable in firms conducted by professional managers, in which the knowledge transfer within the firm may be crucial. For all these reasons the current study does not enable to formulate more general theory on the internationalisation process of e-commerce firms. It gives only an insight into the possible dependence paths, which should be examined in further studies on a larger and more diversified sample of e-commerce firms.

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Organisational Learning in Startup Development and International Growth

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ABSTRACT

Objective: This article explores the conceptual link between the development stages of a startup and organisational learning with the aim to conceptualise the practices of organisational learning levels emerging in specific life cycle stages of a global startup.

Research Design & Methods: This article presents a review as well as a synthesis of the extant literature. The research integrates the theories of organisational learning and international entrepreneurship, and offers a conceptual framework that reveals interactions between the constructs in question.

Findings: The results suggest that the ontological level and the processes of organisation learning can vary in global startups at different life cycle stages. In addition, the research findings also indicate that, for a global startup, for a successful transition from one cycle to another, learning processes of cyclical entrepreneurship learning have to take place.

Implications & Recommendations: The findings of the study have implications in particular for global startup founders and their team members who would like to establish entrepreneurial businesses. Organisation learning practices should be applied in enterprises from the very beginning of the bootstrapping phase with the goal to develop a culture of learning and sharing knowledge when developing the startup idea.

Contribution & Value Added: The originality of this work lies in proposing a conceptual framework that examines the organisational learning in startup development and international growth and a set of important considerations for further research, as well as contributing to the literature on international entrepreneurship.

Article type:	conceptual article
Keywords:	startup; international growth; startup life cycle/startup development cycle; organisational learning
JEL codes:	M13, L26, L22, M16

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INTRODUCTION

Because of constantly improving technologies, the business environment and various business models undergo a rapid and continuous change as well. Enterprises are forced to be flexible and quick to adapt to innovations and the changing environment. Therefore, new progressive enterprises – startups – have appeared. It should be noted that some startups have had their global vision and have been able to use entrepreneurial possibilities in foreign markets from the very beginning of their activity. A startup oriented towards global expansion can distinguish itself from other participants of the market by relying on its exceptional features or solutions which could help cut the expenses of product development (Tanrisever, Erzurumlu, & Joglekar, 2012). All of those aspects play differently important roles in the development of entrepreneurial business – life cycle of a startup, which usually encompasses several stages from the seed stage to global expansion (Osnabrugge & Robinson, 2000). The life cycle of a startup is related to the development of a startup, including all internal resources, financing, attraction of external investment, the size and structure of the enterprise, and networking.

The stages of the development of entrepreneurial businesses, starting from the formation and validation of a business idea and ending with the development of a business in global markets presuppose different strategic solutions when faced with specific context and organisational challenges that create paradoxes regarding entrepreneurial business development strategies. Therefore, learning of an organisation goes to be a crucial factor. If organisational learning is effective, it becomes the source of innovation and helps create competitive advantage in the market (Dai, 2012). The effectiveness of organisational learning depends on the practices of knowledge transfer in different stages of enterprise development, i.e., how individuals share knowledge and how the firm supports learning-conductive workplace in the long run (Renta-Davis, Jimenez-Gonzalez, Fandos-Garrido, & Gonzalez-Soto, 2014). In the analysis of small and medium-sized enterprises which have successfully settled in foreign markets, it was also confirmed that a higher level of learning, resulting in systemic knowledge and economies of scope, positively influences past growth and expectations of future growth in new ventures (Saarenketo, Puumalainen, Kuivalainen, & Kylaheiko, 2009). Although the variety of frameworks of organisational learning (OL) is high, this research will employ the 4I OL framework provided by Crossan, Lane and White (1999) which is expanded by SMEs and startups' cases to 5I OL framework (Tam & Gray, 2016). The 4I OL framework is a comprehensive model and was used in previous entrepreneurial research.

As Dimov and Shepherd (2005) emphasise, entrepreneurship research most often focuses on the collective knowledge stock of team members in the startup phase, and sees how that reserve influences the venture success. There is lack of research that might reveal interactions in each stage of a startup's life cycle when organisational learning processes and practices are used, which could show how organisational learning may differ in each stage of the startup life cycle.

Thus, in this article, we address the *gap* in the literature by drawing on organisational learning and international entrepreneurship theories to develop a conceptual framework that examines the organisational learning in startup development and international

growth. We investigate how, despite the lack of resources, startups can create and integrate sources of knowledge through learning processes at different development stages as they pursue international growth.

Therefore, this article addresses the *research questions*: what is the importance of each learning process and level of dominating OL during startup development and international growth? What is the role of entrepreneurial learning in startups' developmental stages as they pursue international expansion?

Thus, the theoretical research offers several contributions. First of all, the research evolves the theory of international entrepreneurship by integrating the stages of a startup's development to its expansion in global markets and by relating them to 5I organisational learning and entrepreneurial learning frameworks and showing the importance of organisational learning in each startup development stage as well as common practices. Secondly, this research develops Lumpkin and Lichtenstein's (2005), Dutta and Crossan's (2005), and Brockman's (2013) research in the field of entrepreneurship by integrating the 5I OL framework and responding to the above mentioned need for more specific research as this research is specifically oriented towards the stages of the global development of a startup. Thirdly, this research offers a conceptual framework and propositions for further theoretical discussion.

MATERIAL AND METHODS

This article is based on the review of literature on organisational learning and international entrepreneurship. The research methodology integrates the theories of organisational learning and international entrepreneurship.

The first important stream was to conceptualise startup development in their international growth. For the review, the authors identified all published scientific articles that address a variety of small and medium-sized enterprises which internationalise from inception, the development process of startups and major stages in their development. Databases searched included EBSCO Host, Science Direct and Proquest. The search was established without limiting the period of publication.

Secondly, the most important stream was identified within the organisational and entrepreneurial learning concept. The organisation learning 4I framework is highly applicable in the investigations on SME learning, from individual to group to organisational levels of learning. But in modern startup context it is very important to take in mind not only mentioned learning levels in the organisation but also learning between the startup and other organisations. We choose the 5I framework proposed by Jones and Macpherson (2006). The above-mentioned 4I model was developed, adding the intertwining process which emphasises the critical role of external organisations, institutionalising knowledge in SMEs. This 5I model can be generalised to a number of different learning contexts that involve understanding and making sense of data and information, which is a critical issue given the large volumes of data and information available to entrepreneurs. Entrepreneurship learning processes constitute a significant part of startup organisational learning. Therefore, the discussion of startups' learning also requires an analysis of entrepreneurial learning processes.

Thirdly, a narrative review of the literature was conducted to synthesise the research. In order to grasp the concepts, the 5I Organisational Learning Framework and Entrepreneurial Learning Framework were used in each developmental stage of a startup. In every

developmental stage of a startup, propositions related to the process and level of dominating organisational learning were proposed. As a result of this theoretical analysis, a comprehensive model in order to analyse the practices of organisational learning levels emerging in specific life cycle stages of a global startup was proposed.

LITERATURE REVIEW

Conceptualisation of Startups and their International Growth

The globally-oriented market has shaped favourable conditions for the emergence of new categories of market players, namely small and medium-sized enterprises which are quick to internationalise at the beginning of their activity cycle. In most cases, such enterprises get the majority of their income from foreign markets. Such enterprises are called International New Ventures – INVs (Oviat & McDougall, 1994), Global Startups (Oviatt & McDougall, 1995), Born Global (Knight & Cavusgil, 2004; Rialp, Rialp, & Knight, 2005), or Instant International (Fillis, 2001). Phenomenological studies distinguishing the characteristics of such enterprises are scarce. Born global enterprises and INVs are often used as synonyms (Kuivalainen, Sundqvist, Saarenketo, & McNaughton 2012). Born global enterprises are those that in the first three years of their activity entered foreign markets, and their export volume in foreign markets constituted more than 25% of all sales (Knight & Cavusgil, 2004). The emergence of born global enterprises is influenced by changing environmental factors (the need to specialise, advance of technologies, etc.) and available internal competences of an enterprise (Rialp, Rialp, & Knight, 2005). Born global enterprises differ from traditional enterprises with the pace of internationalisation, diversification of markets and high level of export (Sekliuckiene, 2017). The term INVs is used to describe innovative enterprises which broadly adopt technologies and are quick to internationalise despite high risk, lack of resources or increased responsibility and obligation in the market. Such enterprises exhibit innovative, proactive and risk-taking behaviour, which creates value for them beyond the boundaries of their home market (Mathews & Zander, 2007). There are different types of INVs – Export Startup, Geographically Focused Startup, Multinational Trader, Global Startup (Oviat & McDougall, 1994).

'Global Startups' are defined as ventures that 'not only respond to globalizing markets, but also proactively act on opportunities to acquire resources and sell outputs wherever in the world they have the greatest value' (Oviatt & McDougall, 1994, p. 59). The definition demonstrates attentiveness to international sourcing activities, but it is not obvious how pre-sale access to international resources is included as a distinguishing feature of INVs (Bjørgum, Moen, & Madsen, 2013). It is important to define the concept of a startup as well. On the one hand, a startup may be defined as a temporary organisation in search of a scalable, repeatable and profitable business model (Blank & Dorf, 2012). However, a more common definition of a startup says that a startup is an enterprise established for a quick expansion in both its home market and foreign markets, which could be named as the main difference between startups and other forms of businesses (Graham, 2012). A startup is described as an enterprise younger than 10 years which follows an innovative business model and/or uses innovative technologies, as well as sustains quick and substantial growth in turnover and great rise in employee numbers (Ripsas & Troger, 2014). According to Stevenson, Roverts, and Grousbeck (1994), startups not only recognize market opportunities

but also try to create such opportunities themselves. In order for a startup to survive and be attractive to investors as well as create some value, it is necessary for them to use innovative solutions in the development of the product and be innovative with the business model, which requires effective intellectual capital management (Rompho, 2018; Elia, Lerro, Passiante, & Schiuma, 2017). Deligianni and Voudouris (2011) also agree that presuppositions for a successful startup are not only the importance of product diversification and innovativeness but also geographical diversification of a startup. Research proves that early internationalisation has positive influence on the growth of an a startup in its developmental process (Zahra, Ireland, Guiterrez, & Hitt, 2000) when the main factors of early internationalisation can be entrepreneurial skills and a vision in the establishment phase of a startup, as well as a wide startup founder's social network which allows to achieve global expansion through international partners (Deligianni & Voudouris, 2011).

Startups Development Stages Frameworks

A number of frameworks emerge that help understand startups and changes they undergo when they grow up, find their markets, and help startups acquire customers and revenue. Each framework offers a different perspective on the startup lifecycle, and each suggests areas on which to focus. Moreover, the sequence of activities and stages might vary among different startups (Salamzadeh & Kesim, 2015).

Usually the framework is discussed that distinguishes four major stages in the development of a startup: 1) seed, 2) startup, 3) early and 4) late stages (Osnabrugge & Robinson, 2000). The seed stage begins when the founder of a young business has the idea of a potentially lucrative business which has just started to develop and prove the validity of the idea. The company goes to the startup stage when it is a newly formed business and the product undergoes its development and introduction into the market. Most often, this stage lasts for one year or less. At the early stage, the young company is gradually expanding, producing and delivering its products and services to the market. Usually, it takes less than five years, and at this stage the company is not necessarily always profitable. The late stage is sometimes referred to as the 'development phase'. At this stage, the company is already mature and profitable, and is still more likely to expand. With a fast pace of growth, a company can enter the market between the sixth month and the first year of operation in the event of success. The framework given by Osnabrugge and Robinson (2000) is most often used to analyse the availability of a new business to the sources of funding, that is, when a young company, at the stages of seed or startup, becomes attractive to business angels and venture capital investors (Hofstrand, 2013).

Based on Maurya (2012), the startup develops through three distinct stages: 1) problem/solution fit, 2) product/market fit, and 3) scale. The aim of the first step is to determine a problem worth solving before investing months or years of effort into building a solution, while the aim of the second stage is to find a solution to the problem. Achieving traction or product / market fit is the first significant milestone for a startup. After product/market fit, some level of success is almost always guaranteed. Focus at this stage is shifting towards international growth and scaling the business model. Maurya's (2016) framework is most often used in the context of developing a business model and marketing.

Another framework – Robin's (2014) startup development stages for the growth-oriented ventures emphasises the early stage, growth stage and later stage. In order to better

understand the processes running at each of the development stages, the organisation, product, market and funding dimensions are put in the centre of investigation (Robin, 2014).

- Organisation dimension. Existence, survival, success, business model are distinguished in the early stages of the organisation. This is followed by strategic planning, company building processes take place in the startup growth stage. Merger, acquisition, IPO take place in the later stage.
- Product dimension. In the early stages, the concept of a product is being developed, prototyping, pivoting, testing core features, development, establishing production are taking place. The growth stage involves scaling production and refinement. In the later stage, the diversification of the product search capabilities and solutions are crucial.
- Market dimension. The early stage involves market discovery, market calibration, emerging of the first-time customers, and demand creation. The growth stage is characterised by penetration, and heavy marketing, while the later stage – by diversification and internationalisation of the markets.
- Funding dimension. As regards funding in the early stage, we distinguish seed and startup, in the growth stage – series, and in the later stage – initial public offering (IPO), and exit (internal).

Startup life cycle from a holistic perspective might be defined as three development stages framework, including: 1) bootstrapping stage, 2) seed stage, 3) creation stage (Salamzadeh & Kesim, 2015). The core moment in the bootstrapping stage, in particular, is the action initiated by the entrepreneur himself, in which entrepreneur seeks to turn his idea into a profitable business. Understanding high degree of risk or even uncertainty, entrepreneurs continue to work on the new venture idea, and make a team. An important role in this phase lies in the ability to attract financial resources. The seed stage is characterised by teamwork, prototype development, entry into the market, valuation of the venture, seeking support mechanisms, such as accelerators and incubators, and average investments to grow the startup (Salamzadeh & Kesim, 2015). Creation stage occurs when the company sells its products, enters into the market, and hires first employees.

Ries (2011) distinguishes three features of startups: build, measure, and learn. He notes that the mission of startups is to create a thriving and world-changing business. To achieve this vision, startups employ a strategy that includes a business model, a product road map, a point of view about partners and competitors, and ideas about who the customer will be. In the early stages, there is enough evidence that a business model is profitable and scalable (Ripsas, Schaper, & Troger, 2015). The product is the end result of this strategy. Build-Measure-Learn is a framework for establishing and continuously improving the efficiency of new products, services and ideas quickly and cost-efficiently.

Thus, the startup development faces the challenges of financial, human resources, supporting mechanisms, environmental elements, and usually goes through three or four essential stages. The pre-startup or bootstrapping stage is when the entrepreneur has an idea that he believes in and starts to develop. It follows the seed stage, which creates a startup command, creates and develops the prototype, looks for market opportunities, and valuation of the venture. The third stage is the creation stage. It is characterised by strategic planning, company building processes, scaling production, and refinement. And the last, the later stage, is where an already mature and profitable company is looking for opportunities for development, diversification, and internationalisation.

Organisational Learning and Entrepreneurial Learning Frameworks

Knowledge, created in the processes of organisational learning, occupies a crucial place among other organisational resources of a startup, when the organisation progresses from one developmental stage to another. Research states that there is a close relationship between learning and entrepreneurial achievement, since learning, as a dynamic process, enables entrepreneurial behaviour (Rae & Carswell, 2001). Breslin and Jones (2012) generalise the following ways of conceptualising entrepreneurial knowledge: entrepreneurs learn key 'entrepreneurial skills' as they launch a new venture, through the process of learning-by-doing, with more successful entrepreneurs learning better adapted skills. Then, entrepreneurs learn from their mistakes; they also interpret external environment responses to the decisions made. Entrepreneurial knowledge is formed by entrepreneurs, developing unique cognitive models of the external world, which allows the identification of unexpected ties between measures and results, thus revealing unused potential. From the entrepreneurial learning perspective, learning is experiential, situational, and contextual; it always takes place outside an educational institution, individually and socially mediated; it is centred on translating ideas and problems into opportunities and actions (Erdelyi, 2010).

Tam and Gray (2016) remind that the debate on SME organisational learning, in a classical sense, was initiated by Jones and Macpherson (2006) who undertook the development of the 4I model designed by Crossan, Lane and White (1999). Jones and Macpherson (2006, p. 156) claim that the 4I framework is highly applicable in the investigations on SME learning, from individual to group, to organisational levels of learning.

The 4I framework of organisational learning by Crossan, Lane and White (1999) contains four related processes: 1) intuiting, 2) interpreting, 3) integrating, and 4) institutionalising. Those four learning processes operate over three ontological levels: individual, group, and organisation. On the individual level, learners seek extra knowledge, necessary for their learning. Learning on the individual level requires the capacity of developing competences to actually solve problems, assess hazards, and take potential risks. Then, learning on the group and organisational levels facilitate the creation of a 'wide large diffused entrepreneurial culture within the organization in order to guarantee the alignment of individuals behaviours toward a common objective' (Secundo, Schiuma, & Passiante, 2017, p. 137).

At its most basic level, individual learning involves perceiving similarities and differences – patterns and possibilities. The above insight allows to state that the first 4I learning level closely relates to individual's capacity of intuiting. Research conceptualises intuiting in the following ways: 1) as an individual's skill, intuiting empowers foreseeing, assessing, and modelling future actions, as well as creating and responding to future contingencies (Hideg, 2007); 2) being systematic and participatory, intuiting enables creating future intelligence and a mid- as well as a long-term vision (Hideg, 2007, Miles & Keenan, 2003); 3) as a process, intuiting expands perception limits through consecutive scanning of possible futures and the explanation of emergent situations (Sloughter, 1996); 4) as a facilitating process, intuiting helps develop a wide range of possible-future perceptions as to identify the decisions, based on proactive future situations (Horton, 1999). The above definitions allow to presume that Hideg's (2007) personal qualities of an individual stand out as a precondition of the intuiting process development. This indicates that intuiting is based on an individual's subjective intuition.

While intuiting focuses on the subconscious process of developing insights, interpreting in the 4I model begins with picking up on the conscious elements of the individual learning process. Interpreting might be defined as an informal process which develops shared understanding among individuals by means of a dialogue (Crossan *et al*., 1999). This stage of individual learning is related to the application of cognitive maps – the integrated image of the surrounding environment, seen by individuals from multiple viewpoints – as a method. As a matter of fact, individuals, capable of embodying highly complex and varied cognitive maps, are able to envisage the latent and can act unconventionally.

Integrating is a process which fosters common understanding among individuals and undertakes coordinated actions through mutual adjustment (Crossan *et al*., 1999). Active dialogue of the organisation members is crucially important during this organisational learning process, as it secures the transformation of individuals' tacit knowledge to collective explicit knowledge. Sharing tacit knowledge happens via joint activities, such as being together, working or spending time in the same environment, new employees working with more experienced ones, or in job rotation. In this case, socialisation is not based on any written or oral instruction (Nonaka & Konno, 1998).

Integrating process is followed by institutionalisation that enables the creation of formalised or routine procedures and databases; it also capacitates the establishment of a knowledge management strategy, among other activities (Crossan *et al*., 1999). By this, individual and collective knowledge is formalised within an organisation. That means, the combination of newly created knowledge takes place by gathering, integrating, systematising, disseminating, and re-structuring explicit knowledge. Explicit knowledge is created, and it is later embedded in organisational procedures, activity descriptions, or organising principles; it is objectified in strategies, concepts, products, processes, or technologies.

It the context of startup organisations, the 5I framework, proposed by Jones and Macpherson (2006), stands out. The above-mentioned 4I model was developed, adding the intertwining process which emphasises the critical role of external organisations, institutionalising knowledge in SMEs. The concept of intertwining induces that learning mechanisms of SMEs exist among organisations, not only within organisations. The emphasis on integrated supply chains means that small firms are increasingly fostered to share learning with customers, suppliers and other ecosystem participants (Jones & Macpherson, 2006).

The latter presupposition has been proved by research in the context of startups. Peripheral-central relationships can be a positive factor in entrepreneurial learning, since 'rebalancing the bidirectional 'flow' of knowledge, talent, and resources between centres and peripheries enhances the value of peripheral entrepreneurship, learning, and innovation' (Rae, 2017). Having investigated different entrepreneurial cases, Soetanto (2017) finds out that entrepreneurs under research, when coping with external threats or entrepreneur's self-crisis, or having difficulties in dealing with management and organisation, respond to those by strengthening, expanding, condensing, and creating new networks for learning. Thus, the 5I framework introduces one more ontological learning level – a network. This level of a network reveals itself via formal and informal relations in a network (Secundo *et al.*, 2017). It can be defined as an informal social process of sharing knowledge and experience (what is known, who knows, how it is known); it can be implemented in a definite territory, region, cluster, or ecosystem.

It is important to note that entrepreneurial learning does not correspond to organisational learning in a broad sense; it constitutes only a significant part of it. Therefore, the discussion of learning of startups also requires the analysis of entrepreneurial learning processes. The explorative learning process is a continuous process, since an entrepreneur explores and researches the organisation as well as its environment through all the laps of his experience and organisational development stages (Secundo *et al*., 2017). Continuous investigation and entrepreneurial experiences facilitate the anticipation of probable forms for process organisation and marketing technologies. The exploitative process provides an entrepreneur with the knowledge resulting from mistakes made outside the organisation. This knowledge directly influences entrepreneurial performance and a decrease in variance.

Politis' (2005) conceptual framework of entrepreneurial learning views it as an experiential process, exploration and exploitation being the modes which transform entrepreneurial experience into knowledge. These modes become an essential part of the entrepreneurial learning process. The entrepreneur's experience comprises start up experience, management experience, and the experience related to a particular industry. In the context of the abovementioned conceptual model, there may be two directions to transform entrepreneurial experience into knowledge. In one case, an entrepreneur undertakes decisions – closely related or identical to the decisions made in the past, exploiting the existing knowledge. In the other case, he undertakes decisions radically differing from those in the past. Neither of these forms transforming experience into knowledge is more effective than the other, but the choice in most cases depends on the available resources at a startup (Politis, 2005). For startups with limited resources, a safer transformation direction would be exploitative.

The essence of the experiential learning process is that the most effective creation of entrepreneurial knowledge takes place along learning from surrounding environments, and not from an educational environment. However, the contextual learning process is characterised by the development of skills, expertise, and direct contacts with people within organisations and industry. Secundo *et al*. (2017) suggest means to achieve learning objectives through contextual learning. As a suitable process, this could be best attained by finding solutions to technical problems and by observing and participating in entrepreneurial routines as well as practical activities.

As stated above, intuitive learning takes an especially important place in processes of organisational learning. However, in the context of entrepreneurial learning the opposite pole is important to the intuitive learning process, namely, sensing learning. An entrepreneur should use both intuition and sense, therefore, entrepreneurial learning as a process gets affected by external motivation and contingent factors, interceded by entrepreneurs' internal predisposition to alertness and creativity (Hamidi *et al*., 2008).

To sum up the above considerations, we can state, that the processes of the organisational learning 5I framework develop along four ontological levels: individual, group, organisation, and network. The discussion of entrepreneurial learning processes and the notion of an entrepreneur, being inseparable from the epistemology of individualism, allows to state that their integration is neither expedient, nor possible. However, dealing with the problems of global startup development stages as well as issues in the integration of organisational learning, it stands to reason to evaluate not only the significance of the 5I framework processes, but also the place of entrepreneurial learning processes within the global start up life cycle. Supporting entrepreneurial learning in the development of a

startup organisation could secure entrepreneurial organisational behaviour and, thus, promote start up profitable growth.

CONCEPTUAL FRAMEWORK AND PROPOSITIONS

The present study based on, firstly, the levels of organisational learning, pointed out by Crossan *et al*. (1999), secondly, organisational learning processes identified by Crossan *et al*. (1999) as well as by Jones and Macpherson (2006), and, thirdly, entrepreneurial learning processes, revealed by Secundo *et al*. (2017), to integrate the above into the stages of a startup life cycle. Figure 1 combines all of them to conceptually provide a framework for the study. This conceptual framework suggests that the ontological level and the processes of organisational learning can vary in startup organisations at different life cycle stages due to specific stage constraints. The conceptual model also presupposes that, for a startup, to successfully transition from one cycle to another, learning processes of cyclical entrepreneurship learning have to take place.

Bootstrapping. When initiating startup development, the central axis in both organisational and future product development perspectives is the idea of an organisation or a product, which originates and develops in the mind of an entrepreneur. In this startup life cycle stage, the learning of an entrepreneur is based on intuition, which enables an individual to foresee present or future indetermination. Uncertainty, as a produce of contemporary external environment, can be viewed as a major threat for a startup; it results in the ambiguity of entrepreneurial action outcomes, when entrepreneur acts in unpredictable settings, lacking necessary information about the external environment (Herzig & Jimmieson, 2006; Ebrahami, 2000; Wilson, 2009). Intuiting, based on entrepreneur's intuition, taken as a process to enable a vast array of perceptions about potential future (Horton, 1999), allows the understanding of potential threats and the reduction of a potential idea into a profitable business. A proposition is suggested:

Proposition 1: The intuiting process of organisational learning is more important at the bootstrapping stage than it is at other startup life cycle stages.

Seed. During the seed stage of startup development, organisational learning processes are based on the knowledge of separate individuals: individuals interact, communicate, share experience and intuition; consequently, the interpretation of the latter serves as a background for common understanding of definite startup developers. This results in forming a business model, a prototype of product major qualities; in addition, product production is launched and consumer market is initiated (Bosch, Olsson, Björk, & Ljungblad, 2013; Davila & Foster, 2007). Finally, the decision to operate either on local or foreign markets is made. Moreover, if the company is oriented to international growth from the beginning of activities (e.g. INVs, global startups), this stage becomes crucial for identifying and finding sources of external knowledge abroad. Especially technology oriented startups should search for external technology domestically or abroad from the beginning, and decide how they have to effectively tap into local innovative communities around the globe (Vanhaverbeke, Du, & von Zedtwitz, 2013). The investment into a startup organisation at the seed stage is mostly carried out by more experienced, major venture capital foundation players. They already have enough knowledge on proper development of new businesses and effective use of investment (Schwarzkopf, 2005). The focus of venture capital foundations is often directed

towards entrepreneurs, their personal as well as professional characteristics, and also towards their involvement into the business idea itself (Silva, 2004).

As the interpreting process moves beyond the group, interpretive processes come together around shared understanding of what is possible, and individuals interact and attempt to enact that possibility. A proposition is suggested:

Proposition 2: The interpreting process of organisational learning is more important at the seed and creation stages than it is at other startup life cycle stages.

Creation. The creation stage is a sign of business success and growth which comes after overcoming the difficulties of founding a prosperous startup organisation (Tam & Gray, 2016). At this stage, organisational learning processes become moderately formal and systematic. In such a way, the organisational learning process of interpreting progress into the integrating process of a learning organisation, because, in this particular startup life cycle, the organisation members transfer their knowledge through the individual interpretation of personal experiences and constant interactive dialogue. In such a way, they create explicit collective knowledge which, in turn, becomes the basis for new knowledge creation (Nonaka *et al*., 2001). Integrated knowledge of the organisation members allows to identify the most optimal model of strategic planning, an effective organisation building process, economies of scale, product improvement directions, and a market penetration strategy. It is important to note that the size of the received investment is essential at this stage, since this is a crucial factor influencing the decisions of product development and commercialisation (Nanda & Rhodes-Kropf, 2013). A proposition is suggested:

Proposition 3: The integrating process of organisational learning is more important at the creation stage than it is at other startup life cycle stages.

International growth. Having arrived at the international growth up development stage, a startup is already a mature and profitable organisation and, in order to continue successful scaling up, the organisation has to make a decision concerning merger and acquisition or initial public offerings; it has to diversify the product and the seized markets, as well as make relevant decisions on internationalisation. Thus, the most important concerns of a company at entering this stage could be outlined as follows: firstly, it has to consolidate and control financial gains brought on by rapid growth and, secondly, it has to retain the merits of a small size, including the flexibility of response and the entrepreneurial spirit (Lewis & Churchill, 1987). Judged along the perspective of organisational learning, this stage features the 'overgrowth' of making intuition-based decisions at the organisation, integrating those with the experiences in stock (Crossan *et al*., 1999). The knowledge required for successful functioning of the organisation is stored in databases, routine, and procedures. Therefore, decisions are made on the basis of explicit knowledge; and 'the process of learning is less fluid and incremental and becomes more staccato and disjointed' (Crossan *et al*., 1999, p. 530) during this stage of startup development. A proposition is suggested:

Proposition 4: The institutionalisation process of organisational learning is more important at the international growth stage than it is at other startup life cycle stages.

However, startups usually lack internal structures, routines, and procedures by which larger organisations absorb knowledge (Jones & Macpherson, 2006). Chen, Lin, and Yen (2014) claim that effective knowledge sharing enables supply chain partners to streamline the flow of

information, money, and products across organisational boundaries, in turn, improving the agility, adaptability, and predictability of the supply chain. Moreover, the possibility to collaborate with a variety of external actors in a domestic market and overseas: customers, suppliers, competitors, investors, business support organisations, trade bodies and public institutions, etc. has a positive effect on the company's output (Miles, Miles, & Snow, 2004; Blomqvist & Levy, 2006). It has been noticed that there is a positive relationship between multiple types of collaborative ties and startups' performance in general, as well as between a variety of partners' network and the startup's innovativeness (Baum *et al.*, 2000). Even more, studies concerning collaboration benefits from networks emphasised the positive effect of networks on internationalisation of new venture (Zhou *et al.*, 2007). Knowledge is a key resource for international growth, therefore networks are mainly used as providers of knowledge regarding foreign market opportunities, market trends, latest technological developments (Yli-Renko, Autio, & Tontti, 2002; Loane & Bell, 2006). Therefore, the possibility to learn from consumers, suppliers, and other members of the ecosystem may guarantee successful product diversification, which directly influences a more sustainable competitive advantage of startup organisations and more successful international growth. A proposition is suggested:

Proposition 5: The intertwining process of organisation learning is more important at the international growth stage than it is at other startup life cycle stages.

Entrepreneurial learning in startup growth. Entrepreneurial learning plays a key role in developing organisational capabilities in young organisations and in their survival and growth (Gong, Baker, & Minner, 2006). Cope and Watts (2000) claim that there exists a parallel between an SME's life cycle and the development of entrepreneur's personality, because, for a small business to grow, the entrepreneur must adapt and change as the organisation moves through its life cycle. In the organisational life cycle, an entrepreneur learns new behaviour in particular situations by matching different learning processes, distinct in their epistemology. An entrepreneur learns to think in radically different ways as a result of managing developmental triggers and crisis within the organisation which cause permanent change both for the individual and for the business (Cope & Watts, 2000). All processes of entrepreneurial learning – explorative and exploitative learning, contextual and experiential learning and intuitive and sensing learning – transform entrepreneurial experience into knowledge and depends on the available resources at a startup. Moreover, during the internationalisation process, an entrepreneur has to explore and exploit global opportunities constantly. Thus, the experiential and contextual learning process become a fundamental factor, securing continuous creation of entrepreneurial knowledge (Secundo *et al.*, 2017), while intuition and sense also should be used by an entrepreneur.

The analysis of entrepreneurial learning processes allows to state that the latter processes intertwine and develop in a cycle. In a definite situation, in order for an entrepreneur to select the most suitable way of transforming experience into knowledge, which would further enable the most effective decision, the following is necessary: continuous scanning of the contextual environment, as well as the review of one's own and company employees' acquired experience, matching intuition and senses. A proposition is suggested:

Proposition 6: Entrepreneurial learning processes as modes of which transform entrepreneurial experience into knowledge are important at all development stages of a startup and intertwine and develop in a cycle.

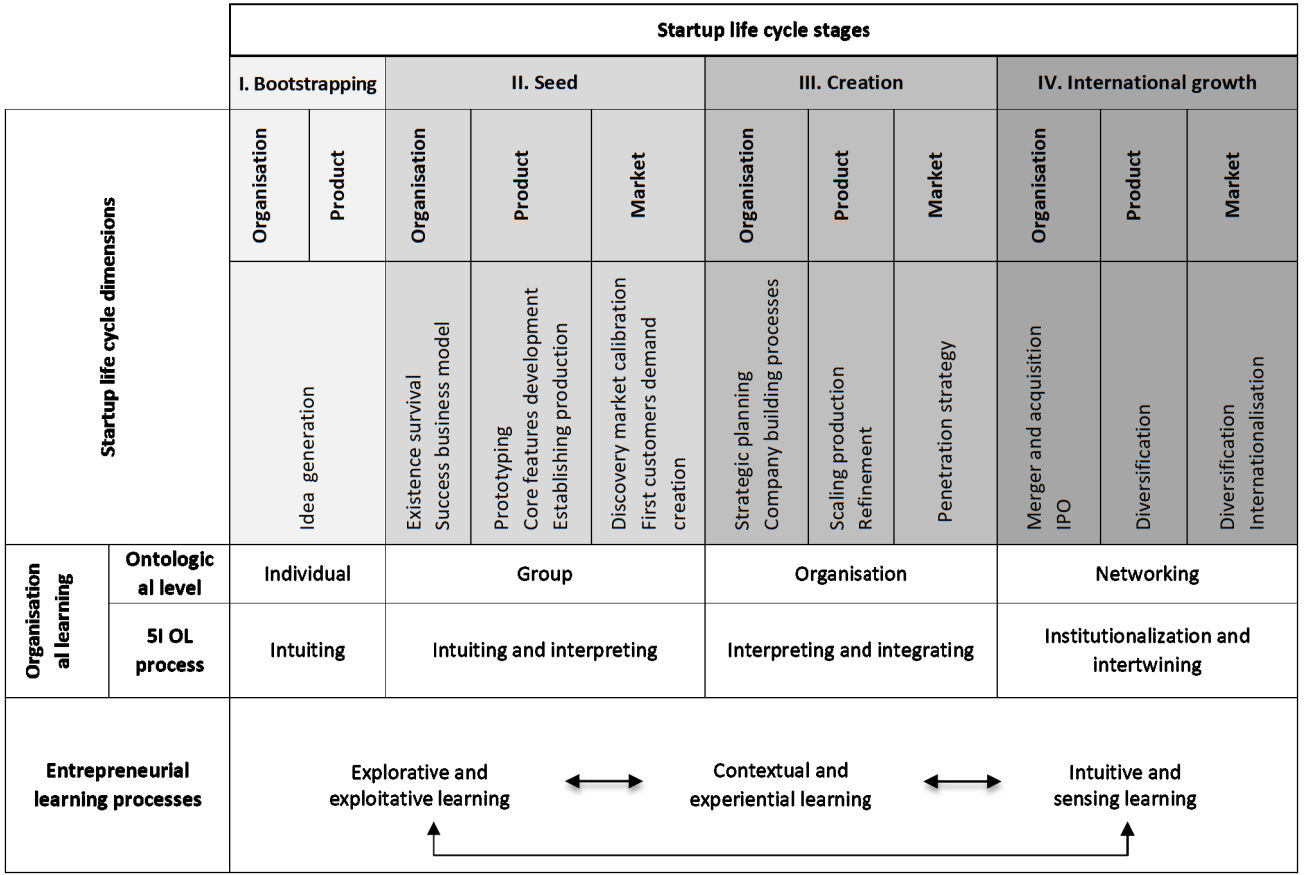

Figure 1. Conceptual Framework

Source: own elaboration.

CONCLUSIONS, PRACTICAL IMPLICATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This conceptual research presupposes practical implications to those founders and their team members who would like to establish entrepreneurial businesses. Organisation learning practices should be applied in enterprises from the very beginning of the bootstrapping phase with the goal to develop a culture of learning and sharing knowledge from the very beginning when developing the startup idea. The importance of entrepreneurial learning increases in this phase.

Precisely in this process, entrepreneurs and startup founders recognize and use new opportunities; and due to the variety of experiential and cognitive processes, they acquire and use entrepreneurial knowledge (Young & Sexton, 2003). In the seed phase, it is essential to develop social skills and use social networks, which contributes to the development of social capital of a startup (Brockman, 2013). Empirical evidence showed that professional social networking websites (PSNWs) support the learning processes of startuppers and that the social capital, one of the components of intellectual capital, acts as an important mediator in the hypothesised relationships between knowledge seeking activities and entrepreneurial learning (Scarmozzino, Corvello, & Grimaldi, 2017). Constant entrepreneurs' learning allows them to grow as personalities and transfer their knowledge to the members of their teams and organisations, by thus enabling group and organisational learning practices. Such learning is called behavioural learning (Lichtenstein, Lumpkin, & Shrader, 2003). In the creation startup stages, entrepreneurs' knowledge, available social contacts and skills have to be transferred from them to the members of the enterprise. According to Brockman (2013), these skills can be learned, and processes at the organisational level can be put into place to assist individuals to become aware of the contacts and stage in relationship development for each. Establishment of a coordinated system of creating social capital is common in an early startup phase. In further stages of the development of a startup, the levels of group, organisational and inter-organisational learning grow to be more important. Usually, during these stages the number of employees in a startup starts growing very fast, which brings up the need to establish effective communication and enable different teams. According to Tam and Gray (2016), in the developmental stage of a startup, managers of an enterprise should take lead in the group learning activities and create shared learning culture in the workplace. Inter-organisational learning and networking ensure fast growth of a startup in the scale up and international growth phase when they start rapidly growing in foreign markets. In this phase, it is crucial to establish employees' recognition among the interested parties, such as investors, business partners, and clients.

The study has some limitations with regard to the effects of organisational and entrepreneurial learning processes on the particular startup's life cycle stage. Therefore, future research may examine entrepreneurs' career experience, such as start-up, management and industry-specific experience. These domains would result in more accurate insights process and level of dominating organisational learning, its intensity, and emerging challenges. Further areas to be researched could include empirical validation of the proposed conceptual model in entrepreneurial business cases. Propositions can be tested in a quantitative study, using an ex-post facto survey design. Empirical research comparing enterprises and their practices in different stages of a startup development could also be of use. Case studies

would allow to get deeper understanding of the phenomenon under analysis and find new theoretical insights. Another direction could be empirical studies comparing startups in advanced and emerging countries. Such studies could especially be useful to countries under transformations (e.g. CEE), because they lack in entrepreneurial business ecosystems, environment favourable to investment, growth of startup, and effective learning practices.

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The Assessment of Key Business Risks for SMEs in Slovakia and Their Comparison with other EU Countries

Mária Hudáková, Matej Masár

ABSTRACT

Objective: The essence of this article is to identify statistically the most serious entrepreneurial risks defined by SME owners and managers in Slovakia based on the empirical research conducted in 2017 and to identify the most serious market risks and their sources (causes) depending on the company size and the duration of doing business.

Research Design & Methods: Using empirical research methods and statistical methods, the authors investigate the dependence between the risks perceived by managers and owners of SMEs and the duration of business activity and the size of an enterprise.

Findings: Based on the results, we can say that market risks that negatively affect the SME entrepreneurial environment are considered to be the most serious risks in all countries. The overall research results in individual countries underline the importance of dealing with the assessment of entrepreneurial risks and their sources in SMEs.

Implications & Recommendations: The owners or managers of SMEs should be able to apply the risk management process in enterprises using appropriate methods and tools to identify changes timely in case of adverse development of business environment. The application of enterprise risk management leads to an improvement in business performance and also cost saving.

Contribution & Value Added: The task of this article is to make the need of implementing the risk management in SMEs through a relevant study more transparent, to compare and evaluate the results of the area being solved in individual countries.

Article type:	research article
Keywords:	risk; risk source; risk management; risk assessment; small and medium-sized enterprises
JEL codes:	M21, G32, L52, L26

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INTRODUCTION

The area of the risk management in SMEs has been analysed and discussed not only in Slovakia but also in other EU countries for a long time. New trends in risk management bring idea that it is necessary to pay permanent attention to assess key business risks in business external environment. SMEs are very sensitive to changes in the entrepreneurial environment, which after some time are always reflected in the quantitative characteristics of this sector.

The essence of this article is to identify statistically the most serious entrepreneurial risks defined by the SME owners and managers in Slovakia based on the empirical research conducted in 2017 and to identify the most serious market risks and their sources (causes) depending on the company size and the duration of doing business. The aim is also to compare and evaluate the results of our research with the results of the same investigations in the Czech Republic, Poland, and Hungary.

Based on the results we can say that market risks that negatively affect the SME entrepreneurial environment are considered to be the most serious risks in all the countries. The overall research results in individual countries underline the importance of dealing with the assessment of entrepreneurial risks and their sources in SMEs. The task of this article is to make the need of implementing the risk management in SMEs through a relevant study more transparent, to compare and evaluate the results of the area being solved in individual countries – in Slovakia, the Czech Republic, Poland, and Hungary.

LITERATURE REVIEW

Today, managers are increasingly faced with the responsibility to take important decisions to ensure prosperity and financial stability under the conditions of uncertainty and risk (Agarwal & Ansell 2016; Klučka & Grünbichler, 2016). More and more businesses, not just large but also small ones, are beginning to realize the need and importance of risk management (Jankelová, Jankurová, Beňová, & Skorková, 2018).

Concerning the global trends and survey results, the current state of application risk management in companies is a very valid and highly needed topic. According to various global surveys and studies (The American Institute of CPAs, 2017; Global risk, 2018; CGMA, 2017), it can be said that risk management means a significant contribution to increasing the performance and value of enterprises in dynamic changes of the environment (Ribau, Moreira, & Raposo, 2017; Streimikiene, 2016).

Small and medium-sized enterprises represent an important part of the economies in developed countries and the same situation is in Slovakia, in the Czech Republic, in Poland, and Hungary. Small and medium-sized entrepreneurs have particularly good conditions for risk management as they are in close proximity to all aspects of individual operations, and they recognize many strengths and vulnerabilities in their businesses (Urbancová, 2015; Kormancová, 2014; Hrehová, 2011).

The owners of small and medium-sized businesses are intuitively aware of the current sources of risks that affect their everyday lives, they are unlikely to be aware of such sources of risk they do not have direct experience with (Bogodistov & Wohlgemuth, 2017; Abbas, 2018; Fudaliński, 2015).

The improvement of the awareness and level of risk management requires not only theoretical knowledge but also practical skills with regard to specific process activities, structure, risk management principles, methods and tools that can be used for risk management. The solution to this issue represents a significant contribution to increasing the performance, value, competitiveness of companies in Slovakia. The risk management system in enterprises is not only an up-to-date global trend in enterprise management but also an opportunity to increase performance or save costs (Gates, Nicolas, & Walker, 2012). Investing in prevention will greatly save financial costs compared to the cost of dealing with the consequences of negative events.

Therefore, it is necessary to raise awareness and foreknowledge among SME managers about risk management in enterprises around the world, but especially in businesses in Eastern Europe and the Slovak Republic, the Czech Republic, Poland, and Hungary. The application of risk management in many companies in Slovakia compared to advanced countries has considerable deficiencies (Sira, Vozarova, Kravcakova, & Radvanska, 2016; Ključnikov & Popesko, 2017). It is important for business managers to be able to identify the most serious risks, create a scope for discussion, and propose preventive measures with a focus on preventing business crises. This fact implies the need for active and systematic risk management also from SME managers. It is necessary to prepare for the threats of the current environment to prevent a crisis in current dynamic business environment.

MATERIAL AND METHODS

The objective of the article is, based on the empirical research carried out in 2017, to identify the most serious entrepreneurial risks perceived by the owners and managers of Slovak SMEs. The utilisation of the selected statistical methods and tools will help us analyse the dependence between the intensity of the market risks for SMEs and the size of the enterprise and the duration of doing business activity in Slovakia. We will also assess the sources of market risks (causes) and compare the results of market risks for SMEs with the results of the research in previous years. We will compare the most serious risks that negatively affect the SME entrepreneurial environment in all aforementioned countries. Based on the processed results we will show the importance and need for managers to implement risk management in SMEs with an emphasis on preventing the company crises.

In order to meet the objective stated, empirical research methods (questionnaire, interviews with competent persons in SMEs), statistical methods, i.e. analysis of variance using quantitative tools of statistics (percentages, averages, homoscedasticity, Bartlett's Test, Kolmogorov-Smirnov Test, F-test, Kruskal-Wallis Test, Box-and-Whisker Plot) and MS Excel software were used. Using statistical methods and tools was to examine whether the average (mean) values of the key risks are dependent on the number of the years of enterprise activities in Slovakia or not.

To achieve the objective of the quantitative method the 'analysis of variance' was used. The analysis of variance was implemented either by parametric or non-parametric tests. Using the calculation of parametric tests two basic conditions had to be met: the resulting p-value of the intensity of the key risks of the homoscedasticity test (identity of variances) and normality test to verify intensities of risks must be higher than the level of significance 0.05 that was chosen.

The comparison is interpreted by the researcher in the way that reflects the interviewer's worldview, which affects how the data are compared with others and thus the representation cannot be considered the absolute truth (Klučka, 2016; Masár & Hudáková, 2017).

RESULTS AND DISCUSSION

In 2017 within the project VEGA No. 1/0560/16 Risk Management of Small and Medium-Sized Enterprises in Slovakia and Prevention of Company Crises, supported by the Scientific Grant Agency, empirical research, aimed at identifying the key business risks for SMEs in Slovakia and the state of the application of the risk management process in enterprises, was implemented (Hudáková, Dvorský, Lusková, & Schönfeld, 2017). A total of 487 SMEs took part in the survey. From this number 64% were micro-enterprises, 24% small enterprises and 12% medium-sized enterprises. The number of enterprises representing industry was 16%, trade 24%, agriculture 1%, construction 12%, transport, information 6%, accommodation, catering 9%, business services 7%, other services 22%, and additional services 3%.

The addressed owners and managers of SMEs in Slovakia should identify a maximum of three risks from the selection of seven business risks, which they consider to be key ones in their business. Of the total number of 487 of the addressed SMEs, the share of identified key risks for SMEs in Slovakia was identified: market risks 26%, financial risks 21%, economic risks 19%, personnel risks 11%, operational risks 9%, legal risks 7% security risks 6% and other risks 1%. Fig.1 presents the share of identified key risks for SMEs in Slovakia in 2017.

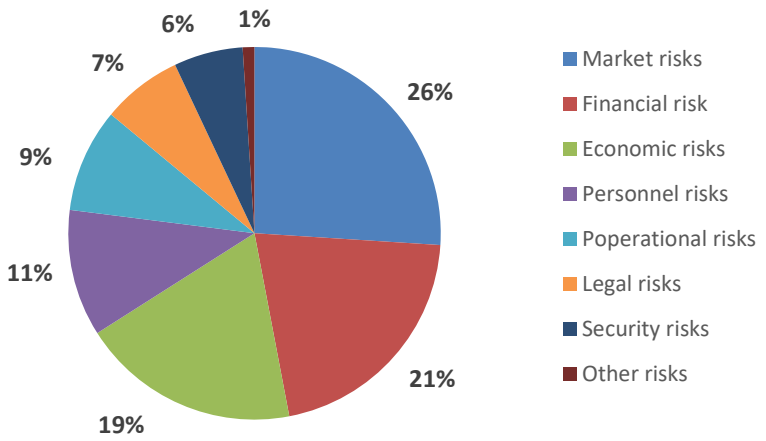

Figure 1. Share of identified key risks for SMEs in Slovakia in 2017
Source: own study based on the research results (n=487).

The next step in fulfilling the objective was to assess the dependence between the identified key risks and the size of the enterprise, i.e., to what extent the type of perceived

key risk depends in Slovakia on the size of the enterprise (micro-enterprise, small and medium-sized enterprise). The most important market risks were selected for assessment by using the quantitative method 'analysis of variance'.

Table 1. Basic statistical characteristics (BSCs) of individual risks in three groups of SMEs according to enterprise size

Main risk	BSCs	Micro sized enterprise	Small sized enterprises	Medium sized enterprises
Market risks	μ	45.020	41.930	45.000
	σ	0.215	0.177	0.163
	κ	0.919	1.163	-0.026
	$\sigma_{\bar{x}}$	0.015	0.019	0.026

Source: own study based on the research results (n=487).

The necessary information for the analysis of variance is given in Table 1. The table of the characteristics of the level and variability details the individual characteristics of the statistical set of individual risks in three groups of SMEs according to the size of enterprise. The basic statistical characteristics (BSCs) are as follows: μ – the average intensity of risk to the enterprise, σ – standard deviation intensity of risk to the enterprise, σ2 – variance intensity of risk to the enterprise (Ojiako, Papadopoulos, Thumborisuthi, & Yang, 2012).

Analysis of the Intensity Variance Of Perceived Market Risks for Smes in Relation to the Enterprise Size

Based on the SMEs survey results market risks were identified as the key and the most important risks. Using Bartlett's test (p-value = 0.284), the main assumption of homoscedasticity can be considered as fulfilled. Also, based on the Kolmogor-Smirnov Test, the normality of the examined file was met. The values (p-value) of the test were: 0.090 for micro-enterprises (total number of employees up to 10), 0.135 for small enterprises (10-50 employees) and 0.189 for medium-sized enterprises (20-250 employees).

Table 2. Analysis of the intensity variance of market risks for SMEs using the F-test

The variance of SMEs according to the size of the enterprise	Sum of Squares	df	MS	F	P-value
Between Groups	0.6007	2	0.0325	18.3681	0.0081
Within Groups	1371.6645	339	0.0403		
Total	1377.6725	341			

Source: own study based on the research results (n=487).

After analysing the variance of market risks intensity in the conditions of the Slovak Republic, using a parametric F-test, the value of which is 0.0081 (Table 2), the data can be considered statistically significant since the value is lower than the chosen significance level (0.05). On the basis of the above, it can be concluded that there is a dependence between the intensity of the market risks that SMEs are experiencing and the size of the enterprise at the confidence level of 95% (Figure 2).

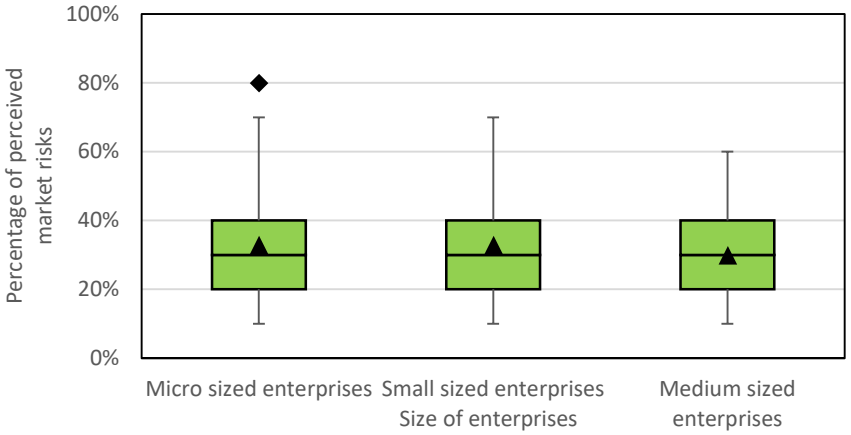

Figure 2. Results of the graphical representation of perceived market risks in relation to enterprise size using Box and Whisker plot
Source: own study based on the research results (n=487).

Analysis of Intensity Dispersion of the SMEs´ Perceived Market Risks in relation to the Duration of Business Activity

Based on the investigated set, the market risk was identified as the key one (according to the SMEs). Based on Bartlett's Test (p-value = 0.151) – the assumption of homoscedasticity was fulfilled.

The normality of the investigated set based on the Kolmogorov-Smirnov Test was also fulfilled. The p-value of the test for the companies doing business for shorter than one year – 0.09; the duration of business activity 1-5 years – 0.158; 5 to 10 years – 0.119 and the companies with the duration of activity of more than 10 years – 0.125.

Table 3. Analysis of intensity dispersion of perceived market risks in SMEs by the F-test

The variance of SMEs according to the length of the business	Sum of squares	Df	Average of squares	F-ratio	P-value
Between Groups	0.0912	3	0.0304	1.1621	0.0325
Within Groups	7.2453	277	0.0262		
Total	7.3365	280			

Source: own study based on the research results (n=487).

After carrying out the analysis of intensity dispersion of market risks for SMEs in Slovakia by using the parametric F-test (its value is 0.0325 – Table 3) we can consider the data as statistically significant because the value is lower than the selected level of significance (0.0500).

Based on this we can say that **there is a certain level of dependence** between the intensity of the perceived market risks in SMEs in relation to the duration of the business activity of the investigated set of companies at the reliability boundary of 95% (Figure 3).

The results of our own empirical research show that market, financial, economic and personnel risks are among the four most important risks that negatively affect the current business environment of SMEs in Slovakia.

The most important risks for SMEs are **market risks**. Using the statistical methods we analysed the dependence between the intensity of the perceived market risks for SMEs, the duration of doing business and the size of the enterprise.

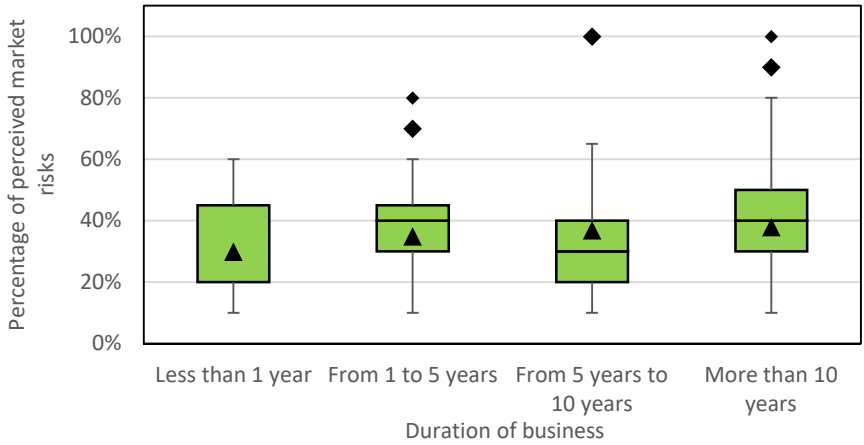

Figure 3. Results of the graphical depiction of the perceived market risks in relation to the duration of business activity by using Box and Whisker
Source: own study based on the research results (n=487).

Based on the calculations of the market risk variance analysis, it can be concluded that perceived **market risks depend the size of the enterprise in the conditions and on the duration of doing business in Slovakia.** Small and medium-sized enterprise are more vulnerable from the perspective of the market environment in comparison with large enterprises.

This is evidenced by further processed survey results that point to the greatest SMEs market risk sources intensity for SMEs:

- loss of customers,
- strong competition in the line of business,
- stagnation of the market,
- unreliability of suppliers.

This hypothesis is confirmed by many other authors who have done similar research (Belás, Dvorský, Kubálek, & Smrčka, 2018; Hudáková *et al*., 2016). Compared to the results of the 2013 statistical survey, it can be concluded that financial risks are still among the key risks for SMEs. Even in 2013, they were identified as the most important with the 30% share on overall risks, and the dependence between perceived risks, the size of the enterprise and on the duration of doing business in Slovakia was also identified (Hudáková *et al.*, 2017; Kelišek *et al.,* 2017).

Assessing the Most Serious Entrepreneurial Risks for SMEs in the Czech Republic, Poland, and Hungary

In 2017 the same empirical research aimed at identifying the key entrepreneurial risks as well as at the state of the risk management implementation process was carried out in SMEs in the Czech Republic, Poland, and Hungary.

In the Czech Republic, 408 SMEs participated in the research. The owners of the enterprises and the company managers consider the most serious risks the companies face to be especially market risks (24%), financial risks (19%), personnel risks (19%), economic risks (16%), operational risks (10%), legal risks (6%) and security risks (5%).

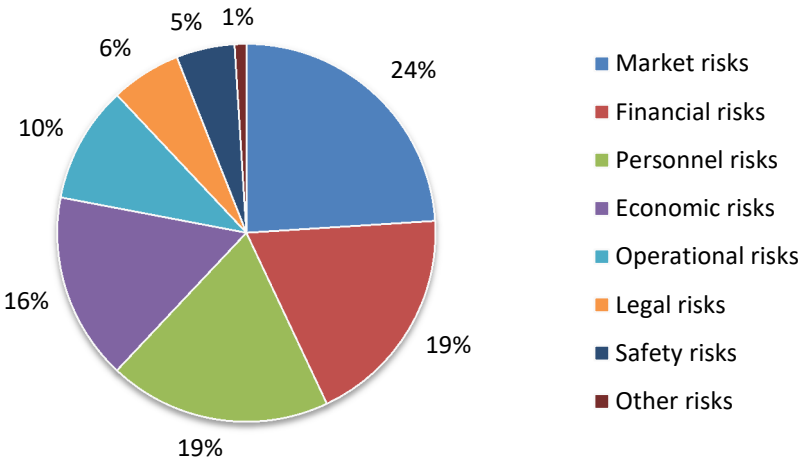

Figure 4. The share of the identified entrepreneurial risks for SMEs in the Czech Republic in 2017
Source: own study based on the research results (n=408).

Both in Slovakia and in the Czech Republic **market risks** were identified as the most serious entrepreneurial risks for SMEs. Subsequently, also the sources of market risks, i.e. those that cause given risks, were analysed. The results show that the loss of customers is the biggest source of market risks. Globalisation plays an important role in the framework of this risk. The loss of customers is relatively common for the current state of individual economies also in other countries being assessed. It is caused especially by markets that are being opened for foreign investments to an extent larger than ever before and the increased import of goods from Asian markets to the Czech market, as well as by changing requirements of customers as for a product or service (Kozubíková, Dvorský, Cepel, & Balcerzak, 2017; Kormancová, 2014; Mikušová, 2016).

Analysis of Intensity Dispersion of the Perceived Market Risks in SMEs in relation to the Duration of Business and Enterprise size in the Czech Republic:

- Based on the Bartlett's Test (p-value = 0.113) – the assumption of homoscedasticity was fulfilled.
- The normality of the investigated set based on the Kolmogorov-Smirnov Test was also fulfilled. The p-value of the test for the companies doing business for shorter than one year – 0.295; the duration of business 1-5 years – 0.121; 5 to 10 years – 0.145 and the companies with duration of more than 10 years – 0.083.
- The normality of the investigated set based on the Kolmogorov-Smirnov Test was also fulfilled. The p-value of the test for microenterprises – 0.083; small sized enterprises – 0.123; and medium sized enterprises – 0.158.

– Based on this we can say that there is a dependence between the intensity of perceived market risks in SMEs in relation to the duration of the business of the investigated set of companies at the reliability boundary of 95% (by results of F-test – p-value is 0.0122). There is a dependence between the intensity of the SMEs-perceived market risks and enterprise size of the investigated set of companies at the reliability boundary of 95% (by results of F-test – p-value is 0.0313), too.

Financial risks were identified as the second most serious risks in the Czech Republic. Insufficient company profit was detected as the biggest source of financial risks. **Personnel risks** (the same percentage as financial risks) were identified as another group of the most serious risks for SMEs. From the point of view of individual personal risk sources, insufficient workers' qualifications were considered to be the most serious one. The companies permanently feel shortage of qualified workforce, especially in the area of specific positions which are irreplaceable in companies (Belás *et al*., 2018).

In Poland 498 SMEs participated in the research. The owners of the enterprises and the company managers consider the most serious risks the companies face to be especially market risks (20%), financial risks (16%), personnel risks (15%), economic risks (14%), operational risks (12%), security risks (12%) and legal risks (11%).

Similarly as in Slovakia and in the Czech Republic also in Poland, **market risks** were identified as the most serious entrepreneurial risks for SMEs. Subsequently, also the sources of market risks, i.e. those that cause given risks, were analysed. The results show that the loss of customers and strong competition are perceived as the biggest source of market risks. The Polish market is very specific, dynamic and unique. The market comprises several Polish and foreign providers of services and goods. According to the sources acquired, the Polish market is, in spite of the fact we mentioned before, more oriented on importing goods (Pietrasieński & Ślusarczyk, 2015).

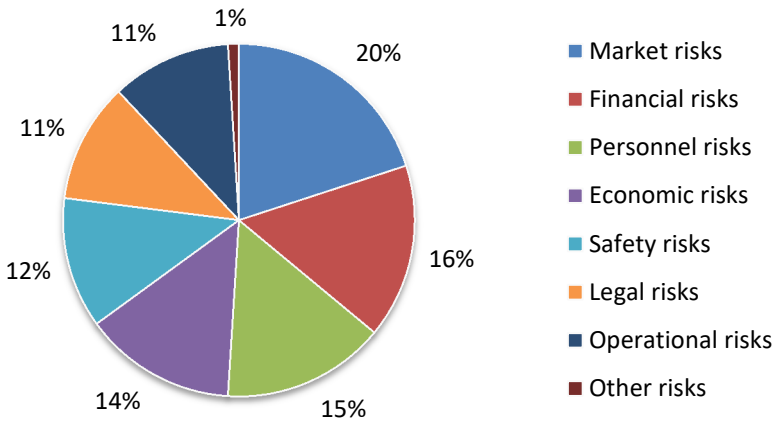

Figure 5. The share of the identified entrepreneurial risks for SMEs in Poland in 2017
Source: own study based on the research results (n=498).

Analysis of Intensity Dispersion of the SMEs-Perceived Market Risks in relation to the Duration of Business and Enterprise size in Poland:

- Based on Bartlett's Test (p-value = 0.168) – the assumption of homoscedasticity was fulfilled.
- The normality of the investigated set based on the Kolmogorov-Smirnov Test was also fulfilled. The p-value of the test for the companies doing business for shorter than one year – 0.273; the duration of business activity 1-5 years – 0.126; 5 to 10 years – 0.111 and the companies with the duration of more than 10 years – 0.090.
- The normality of the investigated set based on the Kolmogorov-Smirnov Test was also fulfilled. The p-value of the test for microenterprises – 0.074; small sized enterprises – 0.113; and medium sized enterprises – 0.1101.
- Based on this we can say that there is a dependence between the intensity of the perceived market risks in SMEs in relation to the duration of the business activity of the investigated set of companies at the reliability boundary of 95% (by results of F-test – p-value is 0.0387). There is a dependence between the intensity of the SMEs-perceived market risks and enterprise size of the investigated set of companies at the reliability boundary of 95% (by results of F-test – p-value is 0.0296), too.

Financial risks were identified as the second most serious ones in Poland. Insufficient company profit was detected as one of the sources of financial risks. The same as in the Czech Republic, the third most serious risk – **personnel risk** – was detected. From the point of view of individual sources of personal risks, insufficient qualifications of workers, high fluctuation rate of employees and an increased rate of possible injuries were identified.

In Hungary 388 SMEs participated in the research. The owners of the enterprises and the company managers consider the most serious risks the companies face to be especially market risks (19%), personnel risks (18%), financial risks (16%), economic risks (13%), operational risks (14%), security risks (11%) and legal risks (9%).

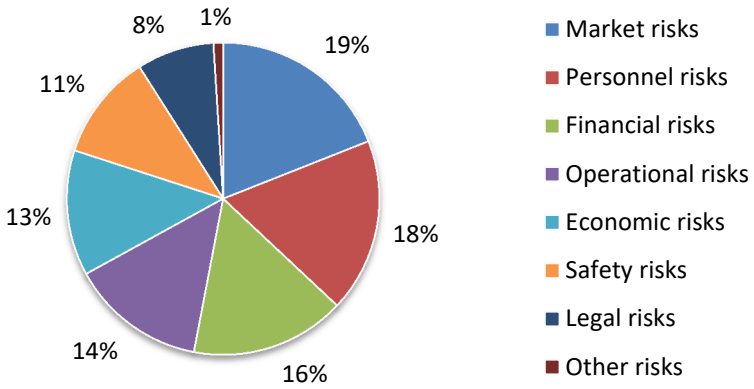

Figure 6. The share of the identified entrepreneurial risks for SMEs in Hungary in 2017
Source: own study based on the research results (n=388).

Similarly, as in other evaluated countries, also in Hungary **market risks** were identified as the most serious entrepreneurial risks for SMEs. From the point of view of individual market risk sources, **strong market economic competition** was stated as the most important one. The Hungarian market is considerably limited, especially due to the current rules in

terms of exporting goods and services and their import to the country. The market is partially regulated by the current government of Viktor Orbán (Kot, 2018; Popp, 2018; Oláh, 2018).

Analysis of Intensity Dispersion of the SMEs-Perceived Market Risks in relation to the Duration of Business Activity and Enterprise Size in the Czech Republic:

- Based on Bartlett's Test (p-value = 0.147) – the assumption of homoscedasticity was fulfilled.
- The normality of the investigated set based on the Kolmogorov-Smirnov Test was also fulfilled. The p-value of the test for the companies doing business for shorter than one year – 0.193; the duration of business activity 1-5 years – 0.146; 5 to 10 years – 0.198 and the companies with the duration of more than 10 years – 0.093.
- The normality of the investigated set based on the Kolmogorov-Smirnov Test was also fulfilled. The p-value of the test for microenterprises – 0.086; small sized enterprises – 0.148; and medium sized enterprises – 0.156.
- Based on this we can say that there is a dependence between the intensity of perceived market risks in SMEs in relation to the duration of the business of the investigated set of companies at the reliability boundary of 95% (by results of F-test – p-value is 0.0408). There is a dependence between the intensity of the SMEs-perceived market risks and enterprise size of the investigated set of companies at the reliability boundary of 95% (by results of F-test – p-value is 0.0249), too.

The second most serious risk in Hungary the research identified are personal risks in comparison with other assessed countries. Insufficient qualifications of workers and an increased rate of possible injuries were identified as the sources of **personnel risks. The result shows** that the owners and company managers of SMEs begin to feel much more the consequences of insufficiently qualified employees and this fact can significantly affect their economic growth. **Financial risks** were identified as the third most serious ones. Their biggest source is considered to be insufficient company profit, similarly as in the Czech Republic and Poland.

Based on the processed research results in the Slovak Republic, the Czech Republic, Poland and Hungary we can say that the identified most serious entrepreneurial risks for SMEs were developing in a similar way.

The SMEs in these countries assessed **market risks** that are connected especially with placing goods and services in the domestic and foreign markets as the biggest threat. Financial, personnel and economic risks were identified as the second, third and fourth most serious risks. The sequence of these risks was only slightly different in individual countries.

The overall results of empirical research point to the significance and importance of addressing the assessment of key risks and their resources in SMEs in the Slovak Republic, the Czech Republic, Poland, and Hungary. They emphasize the need for active and systematic work with risk and preparation for the traps of the current business environment (Brachert, Hyll, & Titze, 2017).

SMEs overcome the consequences of the crises more flexibly and faster and are more able to implement inevitable structural changes. In spite of this, they should know the risks for their businesses and should be prepared for their reduction. Especially due to their importance in the economic system of individual countries, which consists especially in their large share in forming the working positions, as well as from the point of view of their participation in creating GDP.

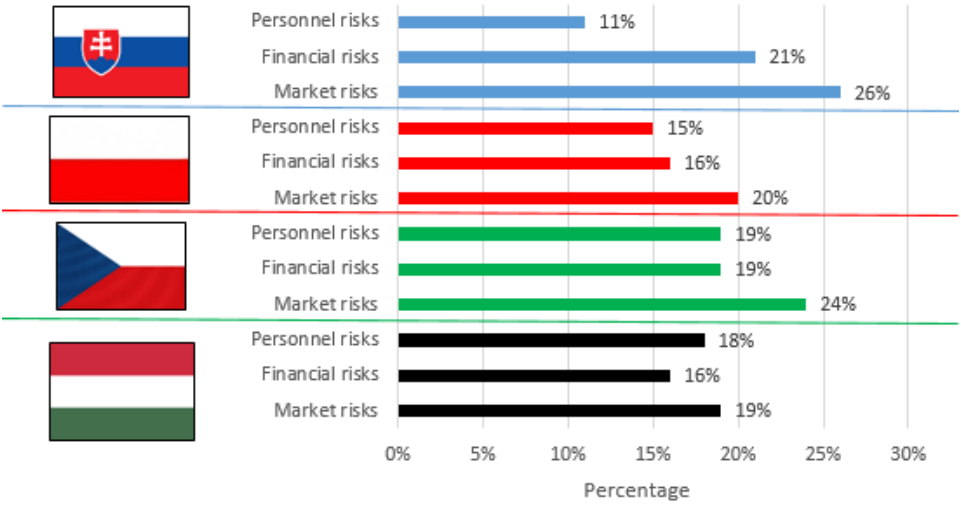

Figure 7. The share of the identified entrepreneurial risks for SMEs in Slovakia, the Czech Republic, Poland and Hungary
Source: own study based on the research results.

Therefore, it is necessary to increase the level of knowledge about possible causes and consequences of the risks, as well as the application of measures for their reduction (Fraser & Simkins, 2016). Improving the level of risk management, therefore, requires enterprises in the Slovak Republic, the Czech Republic, Poland, and Hungary to acquire theoretical knowledge about the risk management process, methods, and tools that can be used in risk management.

CONCLUSIONS

Enterprise risk management can help SMEs not only to avoid business mistakes but to ensure proper management that is closely linked to the level of risk acceptability. The owners or managers of SMEs should be able to apply the risk management process in enterprises using appropriate methods and tools to identify changes timely in case of the development of adverse business environment. The application of enterprise risk management leads to an improvement in business performance and also brings cost savings. Managers are convinced that successful risk management provides fewer negative surprises, greater financial stability and enterprise performance according to this research. It also provides opportunities to earn profits and maintain a good company. The authors' efforts are to create progress actions to promote the application of the risk management process in enterprises in Slovakia so that managers can manage risks and progressively move towards global trends.

Based on the results it is possible to establish the following recommendations for Slovak enterprises:

Establishing strong and successful strategy, policies and responsibility for risk management in the company. It is necessary to support risk management principles by top management. It is important to deal with risk in the company environment, especially with market

risks, which may influence strategy plans. Companies should develop and improve their strategies, policies, principles and establish responsibility for risk management in their company.

Establishing risk criteria, identifying external and internal risks and analysing the external and internal environment. Establishing key risk criteria and continuous evaluating and improving them. Managers should ensure regular and continuous monitoring of all ongoing external and internal events affecting the achievement of their objectives. It is necessary to elaborate the analysis of internal and external business environment, define strategic and organisational connections with risk management and distinguish the positive impact (opportunities) or negative effects (threats).

Development and implementation of a plan for preventive measures, evaluating the effectiveness of preventive measures and risk management. Managers should create and establish measures to reduce risks. It is necessary to make a review of the risk management process in the company. Managers should provide advice, reporting and effective communication. Managers should ensure the control of identified risks, the proposed measures and review their effectiveness.

Ensuring monitoring and early warning systems by controlling. An early warning system is necessary for the continuous monitoring of processes in the company. Managers should define the early warning system, key indicators, and conditions for their implementation.

The achieved results are the basis for the professional public as well as for other organisations that are trying to help companies with effective application of the risk management process in enterprises in the Slovak Republic, the Czech Republic, Poland and Hungary.

Research limitation in this article was to obtain managers and owners of SMEs, who took part in the survey in Czech Republic, the Slovak Republic, Poland and Hungary. The data are statistically significant (We calculated with 5% mistake. Based on the formula, to establish a representative survey 384 respondents are needed, this condition was fulfilled).

A suggestion for future research is to establish a representative statistic survey which will describe the state of enterprise risk management, not only in SMEs but also for large enterprises, which will map risk management across the V4 countries.

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Determinants of Investment Attractiveness of Polish Special Economic Zones

Tomasz Dorożyński, Janusz Świerkocki, Wojciech Urbaniak

ABSTRACT

Objective: The objective of this article is to explain why some Special Economic Zones in Poland have attracted more foreign and domestic investment than others.

Research Design & Methods: Referring to the OLI paradigm, we identified 25 variables which might impact the stock of investment in each individual SEZ. They were divided into three groups: zone's investment climate, investors' opinions and region-level factors. We used correlation and regression analyses to check dependencies.

Findings: The investment climate mattered most. Regional level characteristics were the least important. Foreign investors were more concerned than domestic ones about the location factors we considered. There is clearly a closer correlation between SEZ reputation and the number rather than the value of investment projects. It may mean that small investors pay more attention to the opinions which circulate in business circles and that big companies probably rely on their own evaluation of a SEZ's investment climate.

Implications & Recommendations: Special Economic Zones in less developed parts of Poland can successfully compete for capital if they are well managed. Tax reliefs are secondary for choosing a particular zone. Supply factors count much more. The most important factors for attracting FDI were: outlays on the provision and modernisation of zone infrastructure, the number of towns and cities, overall investment attractiveness of voivodeships, as well as labour resources and costs.

Contribution & Value Added: Location advantages and their significance for domestic and foreign investors were rarely examined at the SEZ level.

Article type: research article

Keywords: special economic zones; foreign and domestic investors; location premises; investment attractiveness; investment policy tools; state aid

JEL codes: F21, F23, R11

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INTRODUCTION

Special economic zones (SEZs) are used in a growing number of countries as an incentive to stimulate investment and attract foreign capital (The Economist, 2015). The term SEZ covers many varieties of the tool, known under about 30 different names (Singa Boyenge, 2007)[1] (for example, *export zones*, *free enterprise zones*, *industrial zones*, *free zones, enterprise zones*). Aid offered to businesses in SEZs may be quantifiable (tax allowances, financial assistance) and/or unquantifiable (regulatory, infrastructural or administrative privileges) and eligibility for its various forms usually depends upon meeting certain criteria. Hence, zones cannot be classified into one category of investment incentives. For instance, James (2013) considers SEZs as fiscal instruments, while VCC (2013) puts them into the *business facilitation* category. Zones may be public or private, and they may even be owned by foreign capital.[2] Their tasks differ depending on country policy goals and its level of economic and institutional development.

In developing countries, they are usually established to develop export production, one of the major barriers to growth. By offering space for experimenting with market mechanisms, they may be also treated as a step towards a thorough modernisation of institutional and economic structures of a particular region or a whole country (Farole, 2011; Farole & Akinci, 2011). The inflow of foreign direct investment (FDI) is vital for implementing these goals.

In developed countries (UK, USA, France, Italy), the SEZ model has been applied as well. However, within a mature market economy it is not intended to stimulate its transformation but to correct some market failures. Foreign trade zones may directly encourage international trade (Seyoum & Ramirez, 2012), while enterprise zones help urban or suburban areas which struggle with above-average unemployment rates and the resulting problems (Kolko & Neumark, 2009; Gobillon, Magnac, & Selod, 2010; Briant, Lafourcade, & Schmutz, 2015).

There are numerous theoretical and empirical studies about SEZs. Most research is devoted to the economic consequences of their establishment in various countries (Aggarwal, 2012; Baissac, 2011; Briant *et al*., 2015; Ciżkowicz, Ciżkowicz-Pękała, Pękała, & Rzońca, 2017; Jensen & Winiarczyk, 2014; Warr, 1989; Yeung, Lee, & Kee, 2009). A less popular thread in studies on SEZs focuses on explaining the success or failure of a given zone scheme, that is, on comparing the experiences of different countries (Farole, 2011; Farole & Akinci, 2011; Moberg, 2015). Another less prevalent problem, but one still worth considering by scholars (Meyer & Nguyen, 2005), is the differentiated performance of zones in one country, that is, when they operate under the same set of rules. We explore it on the example of Poland.

We assume that, like regions (Blanc-Brude, Cookson, Piesse, & Strange, 2014; Meyer & Nguyen, 2005; Pusterla & Resmini, 2007; Villaverde & Maza, 2015), individual zones in a given country may be more or less appealing to entrepreneurs who are seeking the best

[1] Sometimes they are used as SEZ synonyms, e.g., on the websites of national organisations which promote incentives to foreign investors. The SEZ is often understood as a general model with a broad functional framework. Some authors (Aggarwal, 2012, Table 2.1), however, classify it as a specific form of *export zone*.

[2] For instance, in mid-2010, six zones were being built in Africa; two of them were 100% owned by Chinese capital and 4 were joint ventures with minority shareholding of the host countries. The government of China treats them as complementary to Chinese direct investment (Brautigam & Xiaoyang, 2011).

locations for their businesses. This aspect, however, has not received any particular attention in transition economies (Meyer & Nguyen, 2005). In particular, the lack of interest seems odd in the case of the new EU Member States, where SEZs operate as important regional policy tools.[3] Poland is a good example due to the unprecedented size of the SEZ population, their long track record and relatively high importance to the economy (Dorożyński, Świerkocki, & Urbaniak, 2017).

Poland is a unitary state. Therefore, the international economic environment (global and EU-related) and the national economic framework (policies, law, institutions, macro stability) are the same for all zones. With an identical level of autonomy, SEZs' performance depends on location-specific reasons. We assume that the location decision to pursue a project in one of the SEZs in Poland was already made and now the investor must only choose the one he considers the best for him. Hence, our goal is to identify the advantages which explain why some SEZs have attracted more investment (especially foreign) than others.[4] We also compare the significance of their location advantages for domestic and foreign investors. By identifying them, we may provide guidelines to those who implement regional policy, also through the SEZs, in Poland[5] and in other countries. As a measure of performance, we use capital stock and the approximated cumulated number of investment projects up to the end of 2015. We use statistical methods such as Spearman's rank correlation, the Pearson correlation coefficient and a regression model.

The remainder of the text is organised as follows. In the next section, we refer to theoretical insights about the location choice by investors, especially foreign ones. In the third section, we present correlation analysis between investment inflows to SEZs and selected variables. In the fourth section, we use regression analysis to identify value and the number of investment projects in SEZs depending on explanatory variables. In the final section, we present our conclusions together with policy implications and suggestions for further research.

LITERATURE REVIEW

For many years economists, international business academics and representatives of other disciplines have been interested in criteria for choosing FDI locations. Numerous theoretical and empirical studies (for an overview see Faeth, 2009; Kim & Aguilera, 2016; Nielsen, Asmussen, & Weatherall, 2017) have not proposed any clear-cut answer to this question (Lautier & Moreau, 2012).[6] One of the reasons is the fact that the choice of location is dictated not only by its specific features (geography, resources, demand, institutions) but

[3] Latvia has SEZs and free ports, Estonia – free trade zones, the Czech Republic – industrial zones, Bulgaria and Lithuania – free economic zones, Croatia and Romania – free zones, and Hungary – free enterprise zones (data from the websites of institutions that promote the economies of the respective countries among foreign investors, accessed in February 2017).

[4] Ciżkowicz *et al*. (2017) point out that it is the first question to be answered when analysing the effectiveness of SEZs as a policy tool. However, it was largely avoided by researchers in Poland. Most of them were interested in the evaluation of the impact which SEZs had on various variables (unemployment, job creation, social-economic development, attracting investment) but not in factors which were responsible for differences among SEZ.

[5] In 2014, State aid granted in SEZs as tax exemptions represented over 98% of such aid in Poland and 35% of total regional aid (Report on State aid in Poland in 2015, 2016).

[6] One factor which encouraged scholars to come back to the subject is the increasingly higher position of transition economies in FDI flows (Meyer & Nguyen, 2005; Dunning & Lundan, 2008). The countries of Central and Eastern Europe are especially under-researched (Pusterla & Resmini, 2007).

also by the motivation driving investors (Dunning, 2000). As a result, a location attractive to some companies (for example, high tech ones) may prove totally uninteresting to other (for example, low tech ones).[7]

For economists, the key to analysing the problem lies in three formalised models of a multinational enterprise (MNE) which take advantage of the legacy of the so-called new trade theory and are developed by many researchers (Markusen, 2002; Yeaple, 2003; Ekholm, Forslid, & Markusen, 2003; for an overview see Helpman, 2013). They do not address the location of the business abroad directly but they imply general criteria of its choice.

The first model explains vertical FDIs by making reference to the Heckscher-Ohlin theory (Helpman, 1984). Such FDIs occur when a company originating from a country where capital is abundant moves the labour-intensive part of its production to a labour-abundant country to benefit from the difference in relative factor endowments. The choice of location is dictated by the wish to optimise the cost of production in accordance with the comparative advantages of both countries (assuming no cost of trade and production coordination).

The second model addresses horizontal FDIs (Markusen, 1984). They occur between countries that are similar when it comes to relative factor endowments. In this case, a company is believed to locate its production in places for which the trade costs are too high to consider any exports from a plant in the home country. The trade-off between FDI and exports depends on the economies of scale in the home country in relation to the trade costs in a given market (the so-called *proximity-concentration* hypothesis). When the former are lower, FDI is a more viable option.

The third model assumes that firms are heterogeneous, and starting activities abroad involves additional fixed costs (Melitz, 2003). As a result, the least productive firms sell only in domestic markets, more productive ones export and only the most productive can afford FDIs (Helpman, Melitz, & Yeaple, 2004). These FDIs will target markets where the fixed cost of entry (organising a foreign affiliate, advertising) does not go beyond their financing capacity dictated by the achieved level of productivity.

The strategy of production relocation to other countries is also investigated by international business scholars (for a survey see: Kim & Aguilera, 2016). One of the key concepts explains such a decision from a macroeconomic point of view. In accordance with the OLI eclectic paradigm of international production (Dunning, 1977; Dunning, 2001), to engage in FDI a firm must have unique resources, for example knowledge, that can ensure an ownership advantage (O) over its competitors and it must find a location abroad (L), where these assets can be exploited through internalising markets (I), that is, by engaging in a foreign affiliate rather than selling a licence to other firms.

Major L advantages include (Dunning & Lundan, 2008): (1) general factors (political and economic stability, governance quality, ownership rights, competition rules, economic policies), (2) FDI related policies (international agreements on FDI protection, incentives and restrictions imposed upon investors, advertising effort, social infrastructure), and (3) determinants based on motivation followed by investors. In the case of investment, these determinants can be:

– market seeking: market size and per capita income, country-specific consumer preferences, psychic distance, access to regional and global markets;

[7] We ignore investors' characteristics.

- resource seeking: availability of real estate, cost of raw materials, low cost of unskilled labour, availability and cost of skilled labour;
- efficiency seeking: costs of resources adjusted for labour productivity, transport and communication costs, quality of market-facilitating institutions;
- asset seeking: technological, managerial and relational assets, physical infrastructure, macro-innovatory, entrepreneurial and educational capacity environment (in short: agglomerative economics).

The non-formalised nature of the OLI paradigm allows us to consider the L advantages in a less aggregated way and with a greater variety of motives than the MNE models based on trade theories. Horizontal FDI motive is equivalent to market seeking while vertical FDI encompasses resource, asset and efficiency-seeking motives. Against a broader context, the OLI paradigm is not constrained to purely economic parameters (costs) but it may take account of the impact of institutions and cultural factors of the host country. Secondly, apart from the national level, the paradigm provides a framework for studying the intra-national space (advantages of regions, sub-regions, metropolises). Thirdly, the L variables are well grounded in location theories. Therefore, the OLI paradigm seems also more suitable for analysing FDI distribution across different SEZs of the same country.

MATERIAL AND METHODS

SEZs in Poland were initially intended to ease the social problems which accompanied the transition to a market economy. Following the EU accession, their regime was subordinated to the regional policy rules. Within this framework, they were also expected to contribute to the growth and competitiveness of the entire economy.

Corporate income tax exemption is the most important of the various forms of support to investors, foreign and domestic alike. In order to get the subsidies, they need to accomplish several bureaucratic formalities. In addition to the transaction costs involved they also have to fulfil strict requirements regarding the number of employed people, investment outlays, minimum time of operation, and share of their own resources. If these thresholds are not met, an investor has to pay the aid back (with interest). As a result, by the end of 2015 only two-thirds of granted permits had translated into actual development of economic operations. Despite various limitations, SEZs have turned out to be popular among domestic and especially foreign investors. To a large extent, it may be due to the fact that they can be established almost anywhere an (important) investor wants to locate its project. In effect, creating a SEZ in better-developed parts of Poland may not contribute to the closing of the development gap between regions, following the objectives of regional policy (Dorożyński *et al*., 2017).

Description Of Variables and Data Sources

Referring to the OLI paradigm and empirical literature, we hypothesised that three groups of circumstances might, directly or indirectly, impact the stock of investment accumulated in each individual zone as at the end of 2015.[8] The stock was considered in terms of its value and the number of projects, taking account of (Figure 1):

[8] 'Site selection for manufacturing locations is an extremely complex process requiring the selection team to evaluate numerous quantitative and qualitative parameters before choosing the optimum location' (Williams & Campolo, 2016).

1. Zone specific factors, that is, its investment 'micro'- climate. The positive investment climate of a country or region is considered important to catalyse investment and to improve outcomes for society as a whole (World Bank, 2004). It is equally important for a SEZ where it can be defined as 'the infrastructure and administrative environment for firms operating in the zones, which will affect net production costs' (Farole, 2011, p. 117).
2. Regional level factors. The economic environment of zones and its investment attractiveness may add to their L advantages.[9] Thus, they may become more beneficial for doing business only because they are established in a better-developed part of a country. Empirical studies suggest that a SEZ location really matters to their effectiveness (Frick, Rodríguez-Pose, & Wong, 2018).
3. Zone reputation in Polish and foreign business circles. According to research on FDI inflows to Central and Eastern Europe, the positive perception of a host economy (for example, due to good PR) may be more important to potential investors than 'hard' data, such as market size, labour costs or quality of infrastructure (Orłowski, 2010). We presume that it may also be true in the case of SEZs.

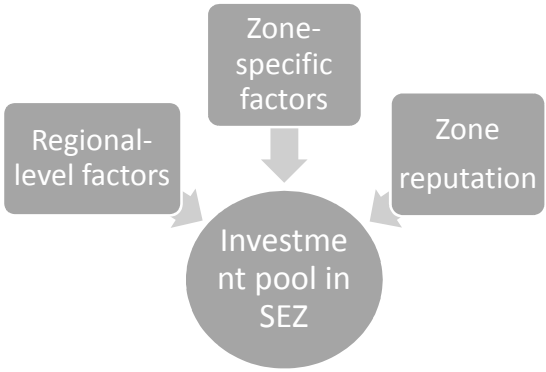

Figure 1. Determinants of investment inflow into SEZs
Source: own study.

In the group of zone-specific factors we included:[10]

1.1: the size of the zone. The bigger the area of a zone, the bigger supply of land and the more investors it may host;

1.2: the share of zone area allocated to investors. On the one hand, more occupied space may mean the zone is more attractive but, on the other hand, it informs businesses that there is not much room left and they should look for another location. That is why it is hard to predict the strength and direction of the relationship;

[9] According to Villaverde and Maza (2015), the inward FDI performance of a region in Europe is largely linked to that of its neighbours. It is possible that similar regularity is present in the case of zones and their spatial environment.
[10] Data come from: factors 1.1, 1.2, 1.5 - 1.7, 1.10, 1.12 & 1.13 (Information about the implementation, 2016); factors 1.8 & 1.11 (Lichota, 2016), factors 1.3 & 1.4 (Colliers, 2016), and factor 1.9; own calculations based on information on SEZs' websites.

1. 3 & 1.4: the maximum and average plot size in a zone. Big manufacturers need more investment space than small ones. Therefore, we expect the variables to be correlated with capital stock rather than with the number of projects (valid permits);

1.5: the number of towns and cities where sub-zones are located. They should attract more investors due to agglomeration benefits (for example, the ease of finding suppliers and employees) and better social infrastructure, that is, universities, hotels, theatres, restaurants, and schools offering instruction in foreign languages, all of which are important to foreign investors;

1.6: the number of communes where sub-zones are located, which approximates a bigger supply of plots with specific parameters. The variable should be more important for valid permits rather than for investment value;

1.7: the equity of ZMCs. Higher equity may facilitate their access to loans that may be used to develop the zone and attract more investment;

1.8: state aid granted to investors. The greater the support, the more investment (value and number of projects) should be present in a zone;

1.9: the fee for launching the permit application procedure in the zone. The fee differs across individual SEZs. This tends not to be a barrier for big companies. If it mattered to small investors, it would be reflected in the number of projects rather than the value of capital stock;

1.10: promotion outlays by ZMCs. The subject-specific literature (Harding & Javorcik, 2013) generally acknowledges the effectiveness of promotion in attracting FDI to countries and regions; hence, there are no grounds for challenging it at zone level;

1.11: the cost of provision and modernisation of infrastructure surrounding the zone, controlled and managed by the central, regional or local government administration (for example, connecting roads to the plots). Better infrastructure is a fundamental L advantage which should translate into more capital and more projects;

1.12: the infrastructure outlays of ZMCs. Clearly these are smaller than public outlays (1.11). Nevertheless, as they are directly related to the quality of plots and roads within respective zones, higher outlays should be reflected in a bigger pool of investment;

1.13: tax allowances for ZMCs granted when they invest in zone development. If there are more resources left for improving the quality of zone services, more investors may appear.

Regional level factors are exogenous to the SEZ. We assumed that they were best reflected in the investment attractiveness of voivodeships, which are regions in the administrative sense. The variables were taken from the annual rankings of the Gdansk Institute for Market Economics (Polish abbr. IBnGR) over the period 2006-2015 (Nowicki, 2006-2015). Average ranks from the last 10 years allowed us to offset the effect of outliers in the sample. Since most zones are located in more than one voivodeship (six is the maximum number), all elements of the index were weighted with the share of investment in sub-zones at county (poviat) level.

IBnGR considered several dozen determinants, out of which it then created seven aggregated variables (partial rankings) and one overall ranking (as a weighted average). The variables consist of:

2.1: market absorption, including the size of the market, household affluence and investment outlays of enterprises;

2.2: labour resources and costs, including the size of working population and the number of unemployed, vacancies, migration of secondary school and university graduates, salaries and wages;

2.3: transport accessibility, including the location of a voivodeship vis-à-vis the western border, capital city, other regional centres, international airports and big ports;

2.4: economic infrastructure, including the density of business environment institutions, the presence of R&D centres, fairs, exhibitions, and SEZs (available areas and investors' activities);

2.5: social infrastructure, including the number and activities of cultural institutions, saturation of hotels and catering establishments;

2.6: public safety, including crime rates, the nature of the crimes, and crime detection rates;

2.7: information and promotion efforts of regional public administration.

We decided to supplement the above variables with variable 2.8 identifying maximum allowable state aid in voivodeships. It is probably the most important measurable factor which differentiates L advantages among the zones and should be reflected in their performance.[11]

As the third group of variables, we used the results of a questionnaire-based study conducted by Norstat Polska (KPMG, 2014). The sample included 234 enterprises, at least 10% from each zone (foreign and domestic investors). On a scale from 1 to 5 (1 – very poor, 5 – very good), the investors assessed:

3.1: the general performance of a zone;[12]

3.2: infrastructure (for example, roads and motorways, railway connections, technical infrastructure);

3.3: business environment (for example, distance to logistics centres, suppliers, availability of legal and financial services);

3.4: cooperation with the SEZ's authorities, supporting enterprises within the zone and new investors;

3.5: human resources (quality and availability of labour within the zone and in its vicinity).

All of the above-mentioned variables were compared against cumulated inflow of investment into an SEZ in terms of value (in PLN) and quantity (cumulated number of valid permits as an approximate measure of investment projects; usually there are slightly more permits than actual projects) processed for our study by the Ministry of Economic Development in 2016 (as of 31 December 2015). We used the Pearson correlation coefficient and Spearman's rank correlation coefficient (Sobczyk, 2000; Rószkiewicz, 2002).[13]

[11] Aid is inversely proportional to the development advancement of voivodeships. Aid ceilings evolved in subsequent multiannual EU budgets starting from Poland's EU accession in 2004. As a result, the average was calculated as the weighted average of maximum ceilings in voivodeships in the periods 2007-2013 and 2014-2020 (Regulations of the Council of Ministers of 13.10.2006 and 30.06.2014 on the map of regional aid). The period 2004-2006 was omitted as the ceilings were the same for all voivodeships with the exception of some big cities (Warsaw, Poznań, Wrocław, Kraków, and Gdańsk) where investments in zones were almost non-existent.

[12] A general assessment (3.1) was made based on a separate question and is not a resultant of answers to detailed questions (3.2-3.5).

[13] The Spearman coefficient shows the correlation between rankings (ranks) of values of variables (in ascending or descending order). In contrast to the Pearson coefficient, it measures any monotonic, not only linear, dependence between variables; it is also more robust and resistant to outliers in the sample.

RESULTS AND DISCUSSION

The results of the correlation analysis demonstrate that the relationship between the three groups of factors and the inflow of investment to the SEZs was not uniform (Tables A1 & A2 in the Appendix). Zone-specific determinants played a relatively more important role, its reputation was less important, while exogenous determinants, that is, regional economic and social environment of zones, were the least important. It may mean that zones situated in less attractive regions of Poland also stand a chance of winning more investors if they are well managed and provide good services to businesses.

The factors we examined were much more strongly related to the inflow of FDI than domestic investment (Table 1). More significant relationships were obtained especially for zone-specific factors. This result suggests that domestic firms pay less attention to zone characteristics than foreign ones.

In the case of zone-specific factors, not all of the dependencies that we have revealed satisfy our expectations. Both groups of investors, foreign and domestic, preferred zones with towns and cities, that is, their agglomeration economies, and with good infrastructure in the zone vicinity[14]. They were also sensitive to the promotion efforts of the ZMCs. However, smaller Pearson and Spearman coefficients for promotional outlays and the number and value of domestic investors compared to respective FDI coefficients suggest that the promotion activities target domestic companies less intensively (Tables A1 & A2 in the Appendix). On the other hand, both groups of investors did not care (variables were insignificant) about the maximum and average plot size or about the amount of state aid offered in the zone, which is quite surprising[15]. The differences in fees for entering a zone and in the equity at the ZMC's disposal were also insignificant as L advantages.

Only FDI inflows were positively correlated with the size of the zone, the diversity of plots (number of communes), infrastructure outlays in the zone and the ZMCs' tax allowances. Domestic capital, which on average is provided by smaller investors rather than foreign ones, was positively correlated with the share of built-up land in the zone territory.

There is clearly a closer correlation between SEZ reputation (Table A3 in the Appendix) and the number rather than the value of investment projects. It may mean that small investors pay more attention to opinions which circulate in business spheres, while big companies probably rely on their own evaluation of SEZ's advantages.

Rather surprisingly, most dependencies between FDI inflow and variables describing the attractiveness of voivodeships were insignificant. They concern such fundamental fea-

[14] In all SEZs, the share of the three leading sectors exceeded 40% of the investment value, and in ten it was higher than 50%. At the same time, the share of one sector in ten out of the fourteen SEZs exceeded 20% of the total investment value, and in four it was not smaller than 40% (Information about the implementation…, 2017). It testifies to the high sectoral concentration of investment in individual zones. Thus, we decided to validate a hypothesis about the relationship between concentration and the inflow of investment into SEZs. By using the Pearson correlation coefficient and Spearman's rank coefficient, we examined the dependences between FDI inflow and total investment, in quantitative and value terms, and the level of sectoral concentration in SEZs. Concentration was measured by the share of one, two and three leading sectors in a SEZ and the Herfindahl-Hirshman (HHI) index of sectoral concentration. In all cases, the values of Pearson and Spearman correlation coefficients turned out to be statistically insignificant. It means that sectoral concentration in a SEZ was not accompanied by a bigger inflow of investment. It may be the effect of the geographic dispersion of investment plots across individual SEZs.

[15] Using selected indicators of regional development Ambroziak (2016) conducted counterfactual impact evaluation in poviats (NUTS 4). His conclusion was that income tax exemption in SEZs mattered as a location factor.

tures of zones' business environment as market absorption, economic and social infrastructures, public safety and authorities' approach to investors. Exceptions include labour resources and cost and transport accessibility. Interestingly, domestic investors did not care about this group of variables.

Dependencies between the inflow of domestic and foreign investments into SEZs, value-wise and in terms of their numbers, and the maximum allowable state aid in voivodeships, turned out to be statistically insignificant (at the level of 0.05). Thus, this kind of incentive seems too weak to direct investors to zones in less developed voivodeships, where higher amounts of aid are possible. The above conclusion is confirmed by the negative correlation between the value of FDI and state aid intensity (Pearson coefficient of -0.518 for p=0.058). It also corresponds with the insignificance of state aid as an intra-zone variable.

Table 1. Significant correlations between investment projects in SEZ and their determinants: foreign versus domestic

Determinants of investment projects in SEZs (first variable)	Significant correlations based on coefficients			
	Pearson		Spearman	
	Second variable		Second variable	
	FDI	Domestic investment	FDI	Domestic investment
Value of investment				
Zone specific factors (13)	5	2	7	4
Regional level factors (8)	1	–	1	–
Foreign & domestic investors' assessment of SEZs – their reputation (5)	2		4	
Number of investment projects				
Intra zone factors (13)	6	4	7	3
Regional level factors (8)	2	–	2	–
Foreign & domestic investors' assessment of SEZs – their reputation (5)	4		4	

Source: own study based on tables A1, A2 & A3.

Correlation methods were used to check the strength of the relationship between the inflow of investment and a series of factors. Next, we specified the regression function in order to identify the value of investments in SEZs depending on explanatory variables. To this end, for regression equations, we selected the same dependent variables, reflecting the inflow of domestic and foreign investment, that were used in correlation analysis:

1. cumulated investment inflow into a SEZ in value terms (in PLN) as of the end of 2015;
2. and cumulated investment inflow into a SEZ in quantitative terms (valid permits) as of the end of 2015.

We also used the same independent variables (zone-specific factors, regional level factors and zone reputation indicators). We supplemented them with the variable *overall investment attractiveness of voivodeships*, which is a weighted average of partial attractiveness (2.1-2.7): market absorption (15%), labour resources and costs (25%), transport

accessibility (20%), economic infrastructure (10%), social infrastructure (5%), public safety (5%), information and promotion efforts (20%).

The equations included two explanatory variables each, with no constant term, which turned out to be insignificant:

$$y = b_i x_i + b_j x_j \quad (1)$$

where:

y - explained variable;
x_i, x_j - explanatory variables;
b_i, b_j - structural parameters;
i, j - numbers of explanatory variables.

Due to the limited number of observations (14), we were not able to use more variables. Overall, several dozen varieties of equations were estimated with explanatory variables from the same or different groups[16], in accordance with the classification adopted in the correlation analysis. Following formal and substantive validation, we selected seven equations with the best stochastic structure parameters of the model. These were exclusively equations with a number of FDI and a value of FDI. No significant relations were found for domestic investment. We calculated structural parameters and stochastic structure parameters of the model using the ordinary least squares method (OLS) with the SPSS software.

The above equations explain well the differences in investment inflow to SEZs. The determination coefficient assumed values within the range of 0.630-0.905. Structural parameters estimates are significant at levels 0.01 or 0.05. The Durbin-Watson test shows the absence of auto-correlation in six cases and one inconclusive result. It means no important independent variable was omitted in the equations. Neither is there co-linearity of variables.

Estimates in Table 2 explain the role of factors belonging to intra-zone and voivodeship attractiveness groups. The presentation also ignores equations with predictors, which reflect the zone reputation as their estimates were found to be insignificant.

Comparing the β coefficient for predictors in individual equations, we may observe that only in one case (equation 2) is the value for a variable from the group 'investment attractiveness' higher than the value of an independent variable from the group 'zone specific.' It is confirmed by the conclusion from the correlation analysis, which reveals the crucial role of intra-zone factors in shaping investment inflow into SEZs.

Best estimates (equations 4 and 5) of FDI inflow (value and projects) were achieved when we took overall outlays on the provision and modernisation of zone infrastructure (Group I) as the independent variable. In two cases, the determination coefficient exceeded 0.9. Notably, the variable reflecting the quality of infrastructure in voivodeships (by attractiveness ranking) was insignificant when it comes to correlation with FDI inflow. Investors' opinions about zone infrastructure were significant in terms of correlation, although we did not manage to design an adequate regression equation with this variable. That may mean that investors appreciate much more zone infrastructure and infrastructure in its proximity than infrastructure in the whole voivodeship, which may be satisfactory or not important.

Quite good results were obtained for both the number of cities and towns with SEZ plots and for resources and costs of labour in the voivodeship as predictors (equations 6 and 7). In combination with the slightly worse but significant results of equations 1 and 2, it suggests

[16] Group I – zone-specific factors, Group II – investment attractiveness of voivodeships, Group III – SEZs' reputation.

that FDI inflow into SEZs is greater when a zone has numerous sub-zones with better infrastructure located in regions attractive to investors, especially in terms of labour resources.

Table 2. Results of regression analysis

No.	Dependent variable*	Explanatory variables (predictors)*	Structural parameters (b)	R^2	Empirical significance (p- value)	Durbin-Watson statistic**	β coefficient	Multicollinearity tolerance	Multicollinearity - VIF
1	y_1	x_1	36.7	0.662	0.003	1.267	0.632	0.999	1.001
		x_2	11,992.1		0.008		0.535		
2	y_1	x_1	27.4	0.630	0.024	1.894	0.471	0.926	1.080
		x_3	11,901.9		0.014		0.524		
3	y_1	x_4	19.8	0.830	0.000	1.918	0.788	0.912	1.097
		x_2	6,248.4		0.045		0.279		
4	y_1	x_4	18.2	0.849	0.000	2.357	0.725	0.808	1.238
		x_3	7,587.0		0.020		0.334		
5	y_2	x_4	0.214	0.905	0.000	2.161	0.777	0.808	1.238
		x_3	75.9		0.010		0.305		
6	y_1	x_5	483.9	0.839	0.000	2.393	0.721	0.798	1.253
		x_2	7452.6		0.026		0.328		
7	y_2	x_5	5.576	0.877	0.000	2.329	0.759	0.798	1.253
		x_2	75.8		0.020		0.305		

Source: own study.

CONCLUSIONS

Looking for the causes determining the popularity of a given SEZ among investors, we considered three aggregates of variables: (1) zone-specific factors constituting its investment climate; (2) regional-level factors reflected in the investment attractiveness of voivodeship indicators, and (3) zone reputation. Correlation analysis showed that the first group was definitely the most important, the third one – less, and the second – the least important. Almost all variables were much more strongly related to the inflow of FDI than to domestic investment.

In the case of zone-specific factors, not all dependencies we have revealed satisfy our expectations. As we presumed, both foreign and domestic investors preferred zones with towns and cities with good infrastructure in the vicinity of the zone. They were also sensitive to the promotion efforts of the ZMCs. Smaller Pearson and Spearman coefficients for promotional outlays, and the number and value of domestic investors compared to respective FDI coefficients, suggest that domestic companies were targeted less effectively (Tables A1 and A2 in the Appendix). Both groups of investors did not care about maximum or average size of plots or about the amount of state aid offered in the zone, which is quite surprising. Differences in fees for entering a zone and in equity at the ZMC's disposal were also insignificant as L advantages.

Only FDI inflows positively correlated with the size of the zone, the diversity of plots (the number of communes), infrastructure outlays in the zone, and ZMC tax allowances.

Domestic capital, which on average is provided by smaller investors, was positively correlated with the share of built-up land in zone territory.

There is clearly a closer correlation between SEZ reputation (Table A3 in the Appendix) and the number rather than the value of investment projects. It may mean that small investors pay more attention to the opinions which circulate in business circles and that big companies probably rely on their own evaluation of a SEZ's investment climate.

Rather surprisingly, most dependencies between FDI stock and regional level variables describing the attractiveness of voivodeships were insignificant. It concerns such fundamental features of zones' business environment as market absorption, economic and social infrastructures, public safety and the local authorities' approach to investors. Exceptions included labour resources and cost, and transport accessibility. Interestingly, domestic investors seemed not to care about regional factors.

Dependencies between the inflow of domestic and foreign investments into SEZs, value-wise and in terms of their numbers, and the maximum allowable state aid in voivodeships turned out to be statistically insignificant (at the level of 0.05). Thus, this kind of incentive seems too weak to direct investors to zones in less developed voivodeships, where higher amounts of aid are possible. The above conclusion is confirmed by the negative correlation between the value of FDI and state aid intensity (Pearson coefficient of –0.518 for p=0.058). It also corresponds with the insignificance of state aid as a zone-specific variable differentiating territorial allocation of investments.

The results of the correlation analysis were partially confirmed by the regression analysis. The most important factors for attracting FDI were: outlays on the provision and modernisation of zone infrastructure, the number of towns and cities, overall investment attractiveness of voivodeships, as well as labour resources and costs. No significant relations were found for domestic investment. It was probably indifferent to SEZ characteristics.

It seems that zones located in less developed parts of Poland are not in a hopeless position when competing for foreign capital. A lot depends on the ZMCs and local authorities' professionalism. Central government should simply leave them the resources and initiative to act. The relevance of tax reliefs is secondary when it comes to choosing a particular zone. Supply factors, such as good infrastructure, labour availability, and qualified employees are much more important.[17] It shows that from an investor's point of view they act rationally although not always in line with the legislator's intentions. [18]

With better data availability, the cognitive value of our research could be improved. Firstly, we showed that foreign and domestic investors react differently to SEZs, but we do not know why. Secondly, as a measure of a zone's success, we used static indicators (stocks of capital and projects instead of flows). With correlation coefficients and stock data, it is not possible to evaluate the directions of dependencies (Nielsen *et al.*, 2017). Thirdly, stock data did not allow us to include more variables in the regression model due to the small number of observations. Finally, the L advantages of a zone can change over time, and we did not take this into account. We also did not confront zones' and investors' characteristics.

[17] With respect to that, our conclusion concords with the results of numerous other studies on the importance of taxes for attracting FDI. For an overview of studies, see Tavares-Lehmann, Coelho, and Lehmann (2015).

[18] Choosing a site based on the most generous incentive offer is one of the most expensive mistakes companies make (Williams & Campolo, 2016).

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Appendix:

Table A1. Determinants of FDI value and population in SEZs (as of 31.12.2015)

No.	Variables	Pearson				Spearman			
		Coefficient		Empirical significance level		Coefficient		Empirical significance level	
		Cumulated value and number of investment projects in SEZ							
		value	number	value	number	value	number	value	number
Zone specific factors									
1.1	Size of the zone (in ha)	0.874	0.864	**0.000**	**0.000**	0.851	0.838	**0.000**	**0.000**
1.2	Share of built-up land in %	0.036	0.075	0.903	0.798	0.108	0.062	0.714	0.834
1.3	Maximum plot size in ha	0.334	0.227	0.265	0.455	0.369	0.295	0.214	0.328
1.4	Average plot size in ha	0.485	0.525	0.093	0.065	0.412	0.420	0.162	0.153
1.5	No. of towns and cities hosting sub-zones	0.727	0.701	**0.003**	**0.005**	0.775	0.682	**0.001**	**0.007**
1.6	No. of communes hosting sub-zones	0.507	0.635	0.064	**0.015**	0.685	0.748	**0.007**	**0.002**
1.7	Equity of ZMCs	-0.043	0.004	0.885	0.989	0.275	0.143	0.341	0.625
1.8	State aid granted to operators in SEZ (tax allowances)	-0.301	-0.384	0.296	0.176	-0.308	-0.462	0.283	0.096
1.9	Tender specification fee	-0.045	-0.134	0.874	0.663	0.145	0.039	0.637	0.899
1.10	Cumulated promotion outlays of ZMCs	0.666	0.788	**0.009**	**0.001**	0.622	0.757	**0.018**	**0.002**
1.11	Total outlays on the provision and modernisation of infrastructure in zone vicinity, cumulatively	0.718	0.759	**0.004**	**0.002**	0.732	0.779	**0.003**	**0.001**
1.12	Outlays of ZMCs on the provision and modernisation of zone infra-structure, cumulatively	0.278	0.248	0.336	0.393	0.538	0.614	**0.047**	**0.020**
1.13	Cumulated tax allowances of ZMCs	0.667	0.692	**0.009**	**0.006**	0.613	0.717	**0.020**	**0.004**
Regional level factors (investment attractiveness of voivodeships)									
2.1	Market	0.453	0.414	0.104	0.141	0.110	0.059	0.708	0.840
2.2	Labour resources and costs	0.718	0.735	**0.004**	**0.003**	0.713	0.707	**0.004**	**0.005**
2.3	Transport accessibility	0.454	0.535	0.103	**0.049**	0.370	0.562	0.193	**0.037**
2.4	Economic infrastructure	0.496	0.467	0.071	0.092	0.427	0.390	0.128	0.168
2.5	Social infrastructure	0.382	0.406	0.178	0.150	0.238	0.260	0.413	0.370
2.6	Public safety	-0.450	-0.401	0.106	0.155	-0.418	-0.396	0.136	0.160
2.7	Authorities' activities addressed to investors	0.366	0.378	0.199	0.183	0.233	0.297	0.422	0.302
2.8.	State aid ceiling	-0.518	-0.448	0.058	0.109	-0.396	-0.422	0.161	0.133

Source: own study.

Table A2. Determinants of value and population of domestic investment projects in SEZs (as of 31.12.2015)

No.	Variables	Pearson				Spearman			
		Coefficient		Empirical significance level		Coefficient		Empirical significance level	
		Cumulated value and number of investment projects in SEZ							
		value	number	value	number	value	number	value	number
Zone specific factors									
1.1	Size of the zone in ha	0.285	0.269	0.324	0.352	0.322	0.315	0.246	0.273
1.2	Share of built-up land in %	0.519	0.673	0.057	**0.008**	0.538	0.614	**0.047**	**0.020**
1.3	Maximum plot size in ha	-0.030	-0.195	0.923	0.523	-0.185	-0.306	0.546	0.309
1.4	Average plot size in ha	0.285	0.108	0.346	0.725	0.270	0.008	0.372	0.978
1.5	No. of towns and cities hosting sub-zones	0.822	0.671	**0.000**	**0.009**	0.684	0.756	**0.007**	**0.002**
1.6	No. of communes hosting sub-zones	0.334	0.270	0.243	0.350	0.409	0.403	0.147	0.153
1.7	Equity of ZMCs	0.058	0.560	0.845	**0.037**	0.031	0.225	0.917	0.440
1.8	State aid granted to operators in SEZ (tax allowances)	0.112	0.204	0.702	0.484	0.225	0.189	0.440	0.519
1.9	Tender specification fee	0.434	0.066	0.137	0.830	0.183	0.041	0.550	0.895
1.10	Cumulated promotion outlays of ZMCs	0.640	0.279	**0.014**	0.334	0.635	0.339	**0.015**	0.236
1.11	Total outlays on the provision and modernisation of infrastructure in zone vicinity, cumulatively	0.507	0.680	0.064	**0.007**	0.622	0.746	**0.018**	**0.002**
1.12	Outlays of ZMCs on the provision and modernisation of zone infra-structure, cumulatively	0.074	0.200	0.800	0.494	0.424	0.427	0.131	0.128
1.13	Cumulated tax allowances of ZMCs	0.267	0.457	0.355	0.101	0.420	0.528	0.135	0.052
Regional level factors (investment attractiveness of voivodeships)									
2.1	Market	0.118	0.053	0.689	0.858	-0.150	0.011	0.610	0.970
2.2	Labour resources and costs	0.462	0.175	0.096	0.549	0.176	0.200	0.547	0.492
2.3	Transport accessibility	0.006	-0.353	0.984	0.215	-0.273	-0.381	0.345	0.179
2.4	Economic infrastructure	-0.231	-0.298	0.427	0.301	-0.295	-0.004	0.306	0.988
2.5	Social infrastructure	-0.027	-0.009	0.926	0.976	-0.233	0.053	0.422	0.858
2.6	Public safety	0.089	0.475	0.762	0.086	0.356	0.297	0.211	0.302
2.7	Authorities' activities addressed to investors	-0.317	-0.352	0.270	0.217	-0.493	-0.218	0.073	0.454
2.8.	State aid ceiling	0.219	0.482	0.452	0.081	0.342	0.399	0.232	0.158

Source: own study.

Table A3. Foreign & domestic investors' assessment of SEZs – their reputation (as of 31.12.2014)

No.	Variables	Pearson				Spearman			
		Coefficient		Empirical significance level		Coefficient		Empirical significance level	
		Cumulated value and number of investment projects in SEZ							
		value	number	value	number	value	number	value	number
3.1	Overall assessment	0.519	0.490	0.057	0.075	0.582	0.407	**0.029**	0.149
3.2	Infrastructure	0.693	0.767	**0.006**	**0.001**	0.763	0.719	**0.002**	**0.004**
3.3	Business environment	0.666	0.728	**0.009**	**0.003**	0.691	0.717	**0.006**	**0.004**
3.4	Cooperation with SEZ authorities	0.501	0.616	0.068	**0.019**	0.560	0.657	**0.037**	**0.011**
3.5	Human resources	0.481	0.714	0.081	**0.004**	0.503	0.710	0.067	**0.004**

Source: own study.

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Externalities and House Prices: A Stated Preferences Approach

Michał Głuszak

ABSTRACT

Objective: In the article, we address the nexus between neighbourhood externalities and house prices using stated preference data. The impact of neighbourhood amenities generating positive externalities and disamenities generating negative externalities on property prices has been studied since the 1970s. Most of the studies to date applied the hedonic methodology and assumed that the effect is homogeneous. The article aims to address the potential heterogeneity of housebuyers' preferences.

Research Design & Methods: The article uses logistic regression models on stated preference data regarding the sensitivity to three spatial amenities (public transit, urban green area, and retail and services) and three spatial disamenities (railway line, noisy road, petrol station). The dataset comes from six editions of the survey on housing demand and preferences in Krakow conducted annually from 2012 to 2017.

Findings: Empirical results show the relation between household lifecycle and household wealth and willingness-to-pay for spatial amenities and willingness-to-accept spatial disamenities. We did not observe the difference in preferences dependent on the purchase motive.

Implications & Recommendations: The results can be interesting for planners and policymakers, but also in the business environment in case of residential development.

Contribution & Value Added: The article fills the gap in the economic literature on factors affecting housebuyers' sensitivity to certain positive and negative externalities that manifest in stated willingness-to-pay and willingness-to-accept.

Article type: research article

Keywords: externalities; house price; hedonic; stated preferences

JEL codes: D62, R21, R32

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INTRODUCTION

Mainstream economic literature was abundant of examples of positive and negative externalities that resulted from conforming and nonconforming functions of adjacent property. One of the best examples is Meade's orchard and hive (Johnson, 1973; Meade, 1952).

The nexus between various spatial (dis)amenities and property prices has been the subject of economic investigation since the seminal contributions to the theory of the demand for complex goods made by Lancaster (1966) and Rosen (1974). It is difficult to list all objects that can decrease property prices nearby, but examples include industrial facilities, nuclear plants, energy lines, wind turbines, waste management facilities, or even places linked with criminal activity. The list of amenities that can increase property prices in the vicinity is equally impressive. The prior research focused on public transport, urban green, public services, recreation areas. It is safe to say that to date thousands of empirical papers using hedonic regression have been published to address these issues.

In the article, we address the importance of several (dis)amenities on housing choices of potential housebuyers in Krakow, one of the most developed property markets in Poland. In the article, we focus on stated-preference data using survey data collected annually at the housing fair from 2012 to 2017. The objective of the article is to investigate the role of housebuyers' characteristics in willingness-to-pay for spatial amenities and willingness-to-accept spatial disamenities. In particular, in the article we test three hypotheses using stated preference data:

1. Hypothesis 1. Preferences regarding the proximity of neighbourhood (dis)amenities are dependent on the housing purchase motive (investment vs consumption).
2. Hypothesis 2. Preferences regarding the proximity of neighbourhood (dis)amenities change with housebuyers' age.
3. Hypothesis 3. Preferences regarding the proximity of neighbourhood (dis)amenities change with housebuyers' economic status.

The article is organised as follows. In the following section we analyse prior literature addressing the links between the presence of several amenities and disamenities and property prices. Within the same section, we assess the use of stated and revealed preference methods. In section 3 we discuss the method and preference data, and we describe independent variables used in the study. In section 4 we examine the empirical results of logit model estimation and discuss the implications and limitations of the study. In section 5 we comment on the findings, reflect on research goals and hypotheses.

LITERATURE REVIEW

Externalities and Real Estate Value

Externalities are considered one of the main reasons for a market failure. The externalities occur when given economic activity has consequences (costs and benefits) for unrelated third parties (individuals or organisations). Based on the nature of consequences economics distinguishes between positive and negative externalities. Examples of negative externalities on the property market are environmental consequences of industrial activity (noise, pollution) that affect the nearby residence (Źróbek *et al.*, 2015). These

negative externalities through the property market mechanism (supply and demand) are later discounted in house prices in the vicinity of the pollutant. On the contrary, a new railway line can increase the accessibility of a given area, and generate a positive externality. Many externalities on the property market manifest spatially, as their impact diminishes with the distance from the source.

Prior research on the link between externalities and property prices historically focused on selected neighbourhood effects. It is extremely difficult to enumerate all types of objects generating positive and negative externalities that could affect property prices, but examples include public transportation, industrial facilities, green areas, schools, and airports. In the article, we briefly summarise the latest research regarding the willingness-to-pay (implicit price) for the proximity to urban green areas, public transportation, public and private services, railway lines, road noise, and detrimental industrial/commercial activity.

An empirical investigation on the nexus between urban green and real estate markets yields mostly consistent results regarding the positive impact of the proximity of green areas on property prices (Gómez-Baggethun & Barton, 2013, p. 8). The economic literature suggests that due to various positive externalities (recreation possibilities, health benefits, comforting shade, pleasant view, noise reduction) that dominate over potential nuisances the presence of green areas results in an increase in property prices in the neighbourhood. It should be noted, however, that the size effect found in relevant research papers is heterogeneous.

Since pioneer studies conducted in the 1960s and 1970s (Hendon, 1971; Knetsch, 1964) most of the economic studies conducted in the US suggested a significant positive relationship between the proximity to green areas and real estate values. Most recent examples include Irwin (2002), Thorsnes (2002) and Conway *et al.* (2010). Results from European studies are generally in line with the US literature. Examples include empirical research from Austria (Herath, Choumert, & Maier, 2015), Finland (Tyrväinen & Miettinen, 2000; Votsis, 2017), Germany (Ahlfeldt & Maennig, 2013; Kolbe & Wüstemann, 2014), Israel (Cohen, 2016), Poland (Czembrowski & Kronenberg, 2016; Trojanek, Głuszak, & Tanaś, 2018) and Portugal (Franco & Macdonald, 2016). This overwhelming consistent picture is confirmed in empirical studies in major metropolitan areas in Asia. Among many recent empirical papers that yield similar results are studies conducted in Hong Kong (Jim & Chen, 2010), Beijing (Biao, Gaodi, Bin, & Canqiang, 2012) or Tokyo (Hoshino & Kuriyama, 2010).

There are some exceptions to this generally consistent evidence. The contradictory evidence is due to two negative externalities arising from the presence of green areas in the vicinity of the property. Firstly, in some special cases (mostly remote rural locations in warm, arid climate zones, like some parts of Portugal, Spain, Australia or California) green areas are vulnerable to wildfires that can spread to surrounding areas. This type of catastrophic risk can have a detrimental effect on the demand for property in the impact area, and as a consequence lead to the price decrease. Secondly, in other cases (most densely populated urban areas) urban green may attract unwelcomed activity – drug traffic, alcoholism, theft, vandalism – that creates obvious negative externalities for all citizens and businesses located in the neighbourhood. The market consequence of the latter is a decrease in property prices (Crompton, 2001; Troy, Grove, & Grove, 2008).

Based on the classic urban theories, built on the concept of central location, that can be traced back to the works of von Thunen, Alonso, Muth and Mills, economic liter-

ature investigated the relations between public transportation and property values. Since the pioneer work of Deweess (1976), traditionally a body of empirical evidence on the links between rapid public transit and property prices comes from major metropolitan areas in the US (McMillen & McDonald, 2004; Kim & Lahr, 2014) and Canada (Dube, Theriault, & Des Rosiers, 2013). The topic was also investigated in South America, based on case studies of the subway in Santiago, Chile (Agostini & Palmucci, 2008), and rapid bus in Bogota, Columbia (Rodriguez & Targa, 2004). There are also numerous studies on the economic impact of public transportation in Europe. Amongst the most empirical evidence on the positive impact of the accessibility of public transit on property prices are studies on: suburban railways in the Netherlands (Debrezion, Pels, & Rietveld, 2011), metro in Santander, Spain (Ibeas, Cordera, Dell'Olio, Coppola, & Dominguez, 2012), subway in Warsaw (Trojanek & Głuszak, 2018), various types of public transit in Dublin (Mayor, Lyons, Duffy, & Tol, 2012), and last but not least two studies on the famous London udergrounds (Gibbons & Machin, 2005; Ahlfeldt, 2013). Finally, there is a growing body of evidence on public transportation in developing Asian cities, supporting the previous findings from mature urban areas in both Americas and Europe. The list includes research on the subway system in: Dubai (Mohammad, Graham, & Melo, 2015), Seul (Bae, Jun, & Park, 2003), Bangkok (Anantsuksomsri & Tontisirin, 2015), Beijing (Chen & Haynes, 2015) or Taipei (Liou, Yang, Chen, & Hsieh, 2016).

There is a consensus that despite some negative externalities that can manifest in the proximity of stations (drug traffic, vandalism), and lines (noise, view disturbance) an increase in accessibility rises property users' utility. The latter would increase both the rent and prices of residential and commercial properties in the vicinity of public transit. The magnitude of the impact depends on various economic and cultural factors, thus the results of empirical investigation varied concerning the reported effect size, while remaining fairly unambiguous regarding the positive sign of the coefficients.

Another example of positive spatial amenities in an urbanised area are retail and services. The retail and services are an important factor behind urban development, and generally accessibility to services and shops increase residential satisfaction and decrease household overall commuting costs and time (Glaeser, Kolko, & Saiz, 2001). Despite potential negative externalities most studies found that the accessibility of convenience stores as well as public services in most cases has a positive impact on house prices (Chiang, Peng, & Chang, 2015; Jang & Kang, 2015; Koster & Rouwendal, 2012; Song & Sohn, 2007).

Not all neighbourhood effects are positive, because some objects generate mostly negative externalities. Links between some of these spatial disamenities and property prices have been addressed in the economic literature. Critical reviews suggest that there are numerous examples of negative externalities related to spatial disamenities that has negative effect on property prices. Examples include landfills (Nahman, 2011), industrial facilities (Grislain-Letrémy & Katossky, 2014), pollution (Guignet, Jenkins, Ranson, & Walsh, 2018).

As it was argued before, intracity (commuter) rail increases the accessibility within metropolitan areas and can have a positive impact on property prices in the neighbourhoods within walking distance from the stations, similar to other rapid public transit modes (fast tram, fast bus, metro). At the same time, some studies suggested that there are several negative externalities generated by railway lines, that can lead to a price de-

crease in the proximity of the railway line (Beimer & Maennig, 2017). Most prolific examples are noise emission and view disturbance. The latter effect would manifest strongly in the first row of development, adjacent to the railway line (Portnov, Bella, & Barzilay, 2009). There are several studies that show that specific effect in the proximity of lines and stations (Gatzlaff & Smith, 1993; Martínez & Viegas, 2009; Pan, 2013; Geng, Bao, & Liang, 2015). It can be argued that properties directly exposed to the railway line would suffer from negative externalities. Additionally, in many cases railway line does not automatically increase accessibility – the examples include railway lines mostly used for cargo operations and rapid intercity connections. In these two latter cases, the lines have mostly a negative impact (a potential decrease in spatial accessibility, noise, view disturbance), and it would be reflected in the preferences of housebuyers (and property prices).

The same logic regarding the accessibility gains and negative externalities also applies to major roads, highways, and ring roads in the metropolitan area, due to extensive noise and pollution. Noise is widely considered as one of the negative externalities strictly linked to urbanisation and technological development. There are numerous sources of noise: roads, railways, aircrafts, but also nightlife and industrial activity. It is not difficult to argue that due to its spatial distribution, road traffic is one of the most disturbing sources of noise. A noise emission increase has adverse social and health consequences and in general decreases life satisfaction and utility from living/working in the impacted area. According to hedonic theory, lower quality of housing will be discounted in property prices. According to empirical research, road noise has a negative effect on housing prices but significantly lower than aircraft noise (Beimer & Maennig, 2017). The evidence from other papers indicates that the impact of noise may not be linear, and may depend on property sub-markets considered (Theebe, 2004).

The Empirical Challenges to Investigate the Impact of Externalities on Property Markets

The traditional approach to address the importance of several amenities and disamenities on housing demand has long been a hedonic regression. The hedonic method conceptualised in the mid-1960s by Lancaster (1966) and later developed and operationalised in 1970s by Rosen (1974), but the general idea of analysing the price of heterogeneous goods using their characteristics can be traced back to 1920s (Colwell & Dilmore, 1999).

The hedonic models allow to determine the value of key characteristics of differentiated goods or services (e.g. housing or land). This implicit value of attributes is not observed empirically, but the method relies on observable market transactions. Under the assumption of perfect information, both quality and price of goods sold are known, and the price can be decomposed into the implicit prices of separate characteristics (that determine the quality of the given product). The hedonic framework allows to indirectly observe the monetary trade-offs of buyers and sellers, or in other words to analyse the market preferences that are revealed by decisions made by individuals on the market (Revealed Preferences, RP). The hedonic models have been used successfully to investigate the impact of various structural, neighbourhood and location characteristics on real estate prices (Malpezzi, 2002; Sirmans, Macpherson, & Zietz, 2005). The significant empirical effort has been made to estimate the implicit prices of selected spatial amenities and disamenities. Positive and negative externalities generated by the presence of certain objects in the proximity can be either capitalised or discounted in property values, and hedonic

models were used to evaluate this monetary effect. In recent years, some economist discussed the theoretical foundations of the method and addressed the role of uncertainty and asymmetric information in the hedonic price formation. The problem has been studied in the literature both theoretically and empirically – see Pope (2008), Kumbhakar and Parmeter (2010) or Zhou, Gibler and Zahirovic-Herbert (2015).

The alternative to the RP method (mostly hedonic valuation) is based on so-called Stated Preferences (SP). Stated preference data is collected through quasi-experiments or surveys, and under specific conditions, they can yield comparable results (Whitehead, Pattanayak, Van Houtven, & Gelso, 2008). The basic difference between SP and RP are fundamental data generating processes (Ben-Akiva *et al*., 2002). In the case of the former, they refer to hypothetical, future choices, whereas the latter reflects real, past decisions made by individuals or groups on the market (Timmermans, Molin, & van Noortwijk, 1994). Each method has several advantages and disadvantages. In particular, in the housing market setting traditional RP method market choices are limited to the set of alternatives available on the market, and cannot be used to forecast demand for new, innovative products. In some cases the method is not efficient due to data limitation – the samples are small, and key variables correlated. Although the SP method may help to overcome these issues, it does come at a high cost. The main disadvantage of SP data is a hypothetical (and sometimes not fully realistic) nature of the decision that has not been fully confronted with budget constraints. Along with numerous examples of SP studies focusing on housing preferences on mature property markets in the US and Western Europe, the approach was used to investigate housing demand (Głuszak & Marona, 2017), preferences regarding tenant-mix in shopping centres (Marona & Wilk, 2016) and willingness-to-pay for green buildings certificates (Zieba, Belniak, & Głuszak, 2013) in Poland.

Because of similar theoretical foundations and despite potential differences in estimates (Murphy, Allen, Stevens, & Weatherhead, 2005; Shogren, Shin, Hayes, & Kliebenstein, 1994), both methods can be combined successfully in a particular research context to investigate housing preferences (Adamowicz, Swait, Boxall, Louviere, & Williams, 1997; de Koning, Filatova, & Bin, 2017; MacDonald, Murdoch, & White, 1987; Phaneuf, Taylor, & Braden, 2013; Timmermans *et al*., 1994).

MATERIAL AND METHODS

In the research, we use stated preference (SP) data to examine the importance of several spatial amenities and disamenities in residential location choices. The dataset comes from 'The Survey on Housing Demand and Preferences in Krakow', conducted annually from 2012 to 2017 by Instytut Analiz Monitor Rynku Nieruchomosci mrn.pl. The survey was distributed during the Housing Fair in Krakow, a regular exhibition where residential developers present their new investments and clients have the opportunity to compare different projects in one place. The Housing Fair is the biggest event of that kind in Krakow and draws a large number of visitors recruiting from future housebuyers, willing to acquire a flat on the primary market. The sampling strategy was non-random, and possibly not fully representative in the statistical sense, thus a direct inference on the housing demand structure is problematic. Nonetheless, the dataset offers in-depth insights into the preferences of housebuyers. Due to a relatively stable structure of the questionnaire (only a fraction of questions were modified during the study period, and none of the key ques-

tions analysed in this article) the dataset seems to fit the research objective of this study. Taking the account of missing data (due to not fully completed questionnaires,) the final sample size was 671 (103 questionnaires from 2012 edition of the survey, 86 from 2013, 115 from 2014, 123 from 2015, 127 from 2016, and 117 from 2017).

The dependent variable was based on the sensitivity of respondents to selected objects potentially generating externalities in the neighbourhood. Within this particular question design, the sensitivity of housebuyers to certain spatial amenities (generating positive externalities) and disamenities (generating negative externalities) could be observed based on responses to two questions regarding the willingness to pay or willingness to accept certain spatial objects in the proximity of the future flat.

To identify most important amenities, respondents were asked what the objects that must be located in the proximity of their future house are (Figure 1). According to pooled results from the 2012-2017 surveys, three most popular objects were: public transport (selected by 79.9% of respondents), urban green area (68.5%), and retail and services (57.9%).

To identify the most prolific disamenities, the respondents were asked what the objects they will not accept in the proximity of their future house are. According to pool results from the 2012-2017 surveys, three least popular objects were: a noisy road (not accepted by 66.7% respondents), a railway line (56.7%), and a petrol station (43.1%). The results are illustrated in the figure (Figure 2).

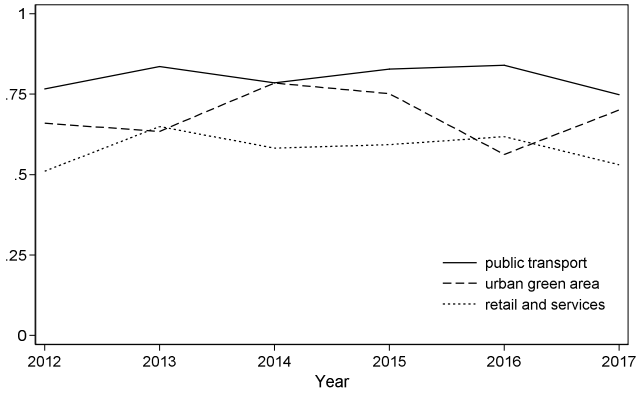

Figure 1. Major amenities in the proximity of a future house according to the responses of potential housebuyers in Krakow from 2012 to 2017

Source: own elaboration.

In the research, we investigate whether sensitivity to certain amenities or disamenities in the neighbourhood is related to certain characteristics of housebuyers (i.e. age, budget constraint), while controlling for consumption/investment motives (we distinguish future owners-occupiers from individuals willing to buy a flat for rental/speculation). The response variable is binary. It takes the value of 1 when the respondent selected a given amenity or disamenity from the list, and 0 otherwise. The selection of a given object indicates willingness-to-pay for amenities or reluctance-to-accept in case of disamenities. We used logistic regression to model the probability of a selection of (dis)amenities given a set of predictors. To test our hypothesis we used three independent variables – *investment*,

age and *price*. The descriptive statistics for these variables are presented in the table (Table 1). Two major motives for housing purchase are consumption and investment (Arrondel & Lefebvre, 2001; Brueckner, 1997). Although in many cases both motives are mixed, we separate all situations where respondents indicated that they plan to purchase a flat purely for investment purpose (rental, speculation or both). We use the investment variable to control for that, as we believe that these two groups can have different preferences and sensitivity to certain (dis)amenities.

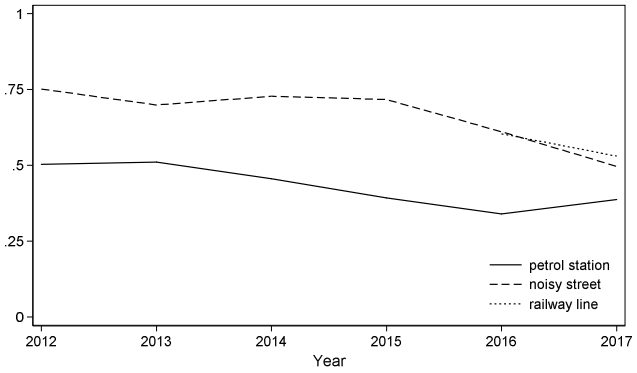

Figure 1. Major disamenities in the proximity of a future house according to the responses of potential housebuyers in Krakow from 2012 to 2017
Source: own elaboration.

Table 1. Descriptive statistics

Variable	Description	Mean	Std. Dev.	Min	Max
investment	Qualitative, 1 if individual plans to buy a flat for rental/speculation, 0 otherwise	0.136	0.343	0	1
age	Quantitative, Age of the household's head (in years)	31.823	8.453	18	70
price	Quantitative, Maximum price household plan spending for a future flat (in thousands PLN)	360.204	136.750	50	1200

Source: own study.

We controlled for budget constraints using *price* variable. We believe that households willing to spend more on housing (mostly wealthier households) may be more sensitive to neighbourhood effects. We use the age variable to control for age of the household head (the only variable available, to proxy for family lifecycle). We believe that sensitivity to certain amenities or disamenities can change with age. Finally, to take account of changing preferences and other time-varying conditions, we controlled for the year the survey was conducted using a set of $Year_t$ dummy variables.

RESULTS AND DISCUSSION

Using the maximum likelihood, we estimated six logit models – three for amenities and three for disamenities. The estimation results for selected spatial amenities are presented in the table (Table 2).

All three models have poor fit (pseudo R2 <0.05). It seems fairly clear that explanatory variables do not help to understand the propensity to choose selected spatial amenities as decisive decision factors when buying a flat. In particular, there is no significant difference between potential buyers expressing different investment motives (*investment* variable). In particular, respondents willing to buy a flat as a pure investment asset (speculation, rental) did not differ significantly from other households. The household head's *age* did not significantly change the probability to choose urban green and retail and services as decisive location factors.

Table 2. Logistic regression model for selected spatial amenities in the proximity of housing

Variables	Urban green		Public transport		Retail & services	
	Exp(B)	Sig	Exp(B)	Sig	Exp(B)	Sig
investment	0.962		0.995		1.307	
	(0.236)		(0.287)		(0.311)	
age	1.020		0.978	**	1.002	
	(0.011)		(0.011)		(0.010)	
price	1.003	***	0.999		1.000	
	(0.001)		(0.001)		(0.001)	
$Year_{2012}$	base		base		base	
$Year_{2013}$	0.824		1.802		1.712	*
	(0.255)		(0.707)		(0.520)	
$Year_{2014}$	1.998	**	1.249		1.508	
	(0.623)		(0.419)		(0.421)	
$Year_{2015}$	1.723	*	1.683		1.308	
	(0.517)		(0.588)		(0.358)	
$Year_{2016}$	0.721		1.539		1.478	
	(0.202)		(0.525)		(0.403)	
$Year_{2017}$	1.147		0.934		1.250	
	(0.338)		(0.298)		(0.344)	
Constant	0.375	**	8.840	***	0.888	
	(0.186)		(4.726)		(0.395)	
pseudo R2	0.045		0.02		0.006	
N	671		671		671	

Note: Standard errors in parenthesis; * p<0.1, **, p<0.05,*** p<0.01.
Source: own study.

We observed that *age* was significant in the case of public transit – in general an increase in age was linked with a decrease in the propensity to select this amenity. The reason behind that is a general increase in car dependence that is positively correlated with age (at least within the age brackets covered by our sample). In general, younger households are more dependent on public transportation, and more often travel by bus or tram. The *price* variable proved to be significant only in the case of urban green areas. Higher stated expenditures on housing increased the probability to choose urban green as an indispensable amenity in the proximity of their future house. It is worth noting; we observed some fluctuations in housing preferences over time (see significant coefficients for $Year_t$ dummy variables).

We applied a similar procedure in the case of spatial disamenities. The estimation results for selected spatial amenities are presented in the table (Table 3). The fit of the simple logit models for disamenities was rather poor (pseudo R2 was ranging from 0.01 to 0.05). Similarly to previous models for amenities, we can conclude that sensitivity to certain negative externalities cannot be comprehensively explained by demographic and economic factors.

Table 3. Logistic regression model for selected spatial disamenities in the proximity of housing

Variables	Petrol station		Noisy road		Railway line	
	Exp(B)	Sig	Exp(B)	Sig	Exp(B)	Sig
investment	0.955		0.846		1.837	
	(0.229)		(0.204)		(0.697)	
age	1.055	***	0.992		0.987	
	(0.011)		(0.010)		(0.018)	
price	1.001	**	1.001	**	1.001	
	(0.001)		(0.001)		(0.001)	
$Year_{2012}$	base		base		–	
$Year_{2013}$	1.116		0.596		–	
	(0.342)		(0.201)			
$Year_{2014}$	1.065		0.777		–	
	(0.302)		(0.251)			
$Year_{2015}$	0.797		0.670		–	
	(0.224)		(0.210)			
$Year_{2016}$	0.565	**	0.429	***	base	
	(0.161)		(0.130)		.	
$Year_{2017}$	0.594		0.286	***	0.868	
	(0.170)		(0.088)		(0.234)	
Constant	0.098	***	2.921	**	1.251	
	(0.046)		(1.439)		(0.891)	
pseudo R2	0.0500		0.0330		0.013	
N	671		671		244	

Note: Standard errors in parenthesis; * p<0.1, **, p<0.05,*** p<0.01.
Source: own study.

In particular, there was no statistically significant difference in preferences regarding spatial disamenities between consumers and pure investors. The age of the household's head proved to be statistically significant in the case of a petrol station – older households seem to be more sensitive (probability of non-acceptance increased with age). The non-acceptance rate increased with the maximum price respondents were willing to pay for their future housing. The variable was statistically significant in the case of a petrol station and noisy road. If we assume this indicator corresponds with the wealth of the household, we can conclude that there is a reason to believe that sensitivity to negative externalities indeed increases with the economic status.

As noted in the literature review, basing the research on SP data has some limitation. The alternative method to address the differences in market preferences between buyers in relation to selected housing attributes, for example the distance to the urban

green) is a monetary valuation based on RP. While in standard hedonic regression models the assumption of the homogenous population holds, the attributes of buyers can be incorporated in the model. Moreover, in quantile hedonic regression models the differences in implicit prices are investigated in more detail (Davino, Romano, & Næs, 2015) provided the housing transaction data is available. One particular problem in Poland is that within the housing market setting there is limited information on housebuyers present in typical transaction records.

CONCLUSIONS

The article addresses the variation in willingness-to-pay for selected spatial amenities and willingness-to-accept spatial disamenities within the housing market context. We investigated the impact of selected positive and negative externalities on housing demand using stated preference data. In particular, we evaluated the importance of economic and demographic characteristics of households for their stated preferences regarding urban green, public transit, retail and services, petrol stations, road noise, and railway lines. We tested three hypothesis using logit models on stated preference data based on housing demand surveys conducted in Krakow from 2012 to 2017.

In general, we observed that relying on simple economic and demographic variables does not help much in understanding the difference in willingness-to-pay for or willingness-to-accept the presence of given (dis)amenities in the neighbourhood (relatively low fit of logit models). We did not observe any significant difference in preferences regarding the proximity of the neighbourhood (dis)amenities regarding the housing purchase motive. In general, respondents planning to buy a flat as a pure investment did not differ from other housebuyers (expressing consumption motives). The findings do suggest that sensitivity to the proximity of neighbourhood (dis)amenities changes with housebuyers' age, but only in some cases, the results were statistically significant (petrol station and public transport). The economic status (proxied by the maximum price households were willing to pay for the future flat) helped to understand differences in preferences regarding the proximity of urban green, petrol station, and road noise. In general, wealthy housebuyers were more sensitive to externalities (higher willingness to pay for amenities, lower willingness to accept disamenities).

Some of the empirical findings must be treated with caution, thus they require future research. We believe that the natural extension of the study is to evaluate the findings using revealed preference from actual market transactions. Provided the detailed sales data is available, the differences in hedonic estimates could be addressed using quantile hedonic regression.

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Big Data Analysis as a Source of Companies' Competitive Advantage: A Review

Małgorzata Bartosik-Purgat, Milena Ratajczak-Mrozek

ABSTRACT

Objective: The main aim of the article is two-fold: firstly, to indicate the benefits to companies. which stem from the usage of Big Data Analysis (BDA), and secondly to conceptualise main general sources of competitive advantage that BDA affords.

Research Design & Methods: The method used in the article is a comprehensive literature review including theories of competitive advantage and relations existing on the Consumer-to-Business market including BDA.

Findings: The conducted research indicates the particular benefits as a result of using BDA, but also conceptualises and proposes three main general sources of competitive advantage that BDA affords. These include product quality, risk reduction, and a customer relationships advantage.

Implications & Recommendations: The results have practical implications as they identify the importance and a possible application of BDA for companies from different industries. If one wants to achieve a competitive advantage, then BDA constitutes an important potential solution. However, a certain level of managerial awareness is required first in order to implement such a solution. The awareness of particular benefits which have already been achieved by competitors in the same industry by applying BDA may be an important trigger for a company to consider implementing their own BDA.

Contribution & Value Added: The originality of the article stems from the comprehensive analysis of benefits of BDA resulting in the conceptualisation of Big Data-driven competitive advantage.

Article type: conceptual article

Keywords: Big Data Analysis; Consumer-to-Business; competitive advantage

JEL codes: O32, D83

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INTRODUCTION

Developments in technology create new business models and solutions and affect changes in existing models and business relations. This influences not only activities of companies but also of individual consumers. New technological solutions and devices, which are usually connected with the Internet, have become a background to theoretical concepts and considerations regarding markets (Manyika *et al*., 2011; Curry, 2016). Among these many concepts, the key ones include: the Internet of Things (IoT), Business Intelligence (BI), Customer Intelligence (CI), Data Management (DM), and Knowledge Management (Erickson & Rothberg, 2014; Jin, Wah, Cheng, & Wang, 2015; He, Wang, & Akula, 2017; Pauleen & Wang, 2017). These concepts relate to some traditional economic theories like the Resource Based Theory or the dynamic capabilities view of the firm (Mikalef *et al.*, 2016; Braganza *et al.*, 2017). But most importantly, they provide advice on how to use new information and the benefits connected with its possession, especially for managers who have to make strategic, tactical, and operational decisions (Erickson & Rothberg, 2014; Intezari & Gressel, 2017).

The digitalisation, the Internet, and mobile activities, both of individual customers and companies, provide large amounts of unstructured data which can be analysed and used by companies for achieving better effectiveness and a competitive advantage on the market (Curry, 2016; Kaplan, 2016). A constant increase in digitalised data means that a majority of traditional ways and means of data gathering, storage and analysis are no longer well-suited to current market needs (Zikopoulos *et al*., 2012). Data creation in the digitalised world is now vast and continues to rise (Bumblauskas, Nold, Bumblauskas, & Igou, 2017). According to Gartner`s (2015) estimation, the amount of connected devices globally will increase to approximately 20.8 billion by 2020. Given this, it is clear why Big Data is becoming a big deal for researchers and entrepreneurs alike. Big Data is associated with the availability of a great amount of data that originates from both internal (e.g. internal documents, e-mails and other in-company systems) and external sources (e.g. social media, GPS, etc.) and the subsequent analysis of this with the aim of achieving better results (Shanmuganathan, 2014; Wu, Zhu, Wu, & Ding, 2014; Zhao Yeung, Huang, & Song, 2015; Del Vecchio, Mele, Ndou, & Secundo, 2018).

Big Data is not as yet a widely and deeply investigated field. Its appearance and usage have led to new research on the topic, but the scientific literature on these sources of information remains limited. Existing literature concentrates especially on the technical and informational aspects of Big Data usage (e.g. Bhat & Quadri, 2015; Jin *et al*., 2015; Jagadish, 2015; Cheng, Zhang, & Qin, 2016; Kim & Cooke, 2017). There are not many studies in which companies present their methods of Big Data exploitation and the effects of that usage (exceptions include: Davenport, 2014; Srivastava & Gopalkrishnan, 2015; Mikalef *et al*., 2017). But the newest publications in this area are an attempt to connect the Big Data Analysis and competitive advantage of the company (Constantinou & Kallinikos, 2015; Mikalef *et al*., 2016). In addition, there are some empirical reports resulting from surveys conducted by, for example the Computing Technology Industry Association (concerning mainly the IT industry) and there is also an increasing number of articles in mainstream news outlets such as *Forbes* or the *Economist.*

The main conclusion from the report by Teradata in cooperation with McKinsey about the usage of Big Data in companies is that Big Data constitutes one of the main challenges for companies in knowledge based economies which are aiming to gain a competitive advantage. In the report one fifth of respondents agreed with the statement that Big Data Analysis (BDA) is the main or one of the most important ways of achieving a competitive advantage on the market, and around 40% of researched managers claimed that it is one of five main determinants that influence the competitive position of a company (*Big Data przynosi istotne korzyści biznesowe,* 2015). As McAfee and Brynjolfsson (2012, p. 4) argue, '[BDA] may offer them even greater opportunities for competitive advantage'. Thus, although the indicated limited existing literature deals with the challenge of benefits resulting from BDA, as Wamba *et al*. (2015) underline 'further research is urgently needed'.

The main aim of the article is two-fold: firstly, to indicate the benefits to companies, which stem from usage of Big Data Analysis (BDA), and secondly, to conceptualise main general sources of competitive advantage that BDA affords.

To achieve this aim two detailed research questions were formulated:

RQ1: What are the benefits achieved by companies representing particular industries resulting from BDA, which in turn may constitute a source of competitive advantage? And as a result, can also small companies achieve benefits and competitive advantage from BDA or is BDA only achievable for large corporations? (practical implications)

RQ2: What are possible general sources of competitive advantage resulting from BDA? (theoretical implications)

The article consists of the following parts: first, we present materials and methods used for the research. Next, we conduct the literature review in which we present the complexity of the Consumer-to-Business (C2B) business model with special emphasis on Big Data Analysis and relate it to the theoretical background of competitive advantage. This allows us to suggest the cost-benefit analysis of BDA. The next part of the article is dedicated to the analysis of the use of Big Data in companies representing various industries. This leads us to the conceptualisation of three main general sources of advantages resulting from BDA. Finally, the article provides concluding remarks and indicates limitations, which are proposed as possible directions for future research.

MATERIAL AND METHODS

The method used in the article is a comprehensive literature review including theories of competitive advantage and relations existing on the C2B market and Big Data Analysis. We used content analysis and documents study in terms of related research problem.

The research presented in this article is essentially analytical conceptual (Wacker, 1998), as it considers and builds logical arguments about cause and effect links between the analysed variables. There is hardly any practical evidence of BDA, going beyond technical aspects of BDA, such as IT systems. Moreover, managers of companies are not willing to talk about the managerial details of BDA and its real impact on performance in terms of detailed particular effects and especially financial measures. However, analysing the BDA in a conceptual manner allows to consider benefits to companies, which stem from the usage of BDA, and to identify main general sources of competitive advantage that BDA affords.

To link industries with particular benefits resulting from BDA and afterwards to conceptualise Big Data-driven general sources of companies' advantage, secondary sources analysis was used, including an Internet query, in which the following search phrases were applied: 'big data example', 'big data case study', 'big data in company'. The particular queries were motivated by the need to look for empirically based publications that looked specifically at real life examples of BDA used in particular industries or companies. The query was conducted both in *Google search* and on the *Proquest*, *Science Direct,* and *Emerald* databases. After an initial screening of 36 sources, only the empirically based sources illustrating real life examples were used. We understand real life examples as evidence of particular companies' benefits proved by research conducted by other researchers or by case studies presented in the industry reports. We included both peer-reviewed articles and anecdotal examples of BDA. Altogether 22 examples of BDA were used for the purpose of the article analysis. We analysed the collected examples by looking for repeating patterns and classifying them into industry type and particular categories of benefits in these industries. We applied an essay form to offer a 'state of the art', overall look at the Big Data as a result of digitalisation, the development of new technologies, and their usage in business with relation to C2B markets.

LITERATURE REVIEW AND THEORY DEVELOPMENT

Big Data Analysis: Specifics and Sources

The gathering and storage of information for analytical and commercial purposes is not a new phenomenon, neither in the literature nor in the practice of company activities (Zikopoulos *et al*., 2012; Davenport, 2014). To find out as much as possible about a potential customer and then prepare an offer strictly adapted to his/her needs is usually the first step for every company. This field was reserved for research market agencies, such as marketing research activities (Craig & Douglas, 2005; Schwarzl & Grabowska, 2015; Wątróbski *et al.*, 2016). The term 'was' is used not without reason, because the Internet (Web 2.0 and Web 3.0) and the development of its devices influenced new opportunities for companies to gather information about their customers. It does not mean that market research is not conducted now, but it means that users' activities on the Internet give an enormous amount of valuable information about them to analysts. Those users, who are either pre-existing consumers or prospective ones, create a value which is consumed by companies or other institutional units. Such specific relations are a background for the Consumer-to-Business (C2B) model, which is rapidly taking on importance as the Internet and other technological advancements progress (Hüther, 2016; Verma, Bhattacharyya, & Kumar, 2018). C2B model is concentrated on consumers who deliver information about their needs, preferences and behaviour. What is more, those consumers often take part in the production process, thus becoming prosumers (active consumers in the production process) (Chandler & Chen, 2015; Hofacker, Malthouse, & Sultan, 2016).

Apart from consumers, the C2B model concerns organisations, including production companies; services such as banks, telecommunication, touristic agencies and companies (e.g. hotels); retailers (including e-commerce) and state or other institutional units (e.g. public institutions, educational, libraries and healthcare units) (Sukumar, Natarajan, & Ferrell, 2015; He, Wang, & Akula, 2017; Kim & Cooke, 2017). By using different Internet and

mobile devices, consumers provide organisations with a great deal of information (e.g. what type of web pages they use, what kind of information they look for, what kind of products or services they are interested in, in what kind of loyalty programme they participate) (Ahsan & Rahman, 2016). Subsequently, such information is analysed and becomes a basis for formulating business decisions. This large amount of information, known as Big Data, was defined at the beginning of twentieth century by Laney (2001), who used the concept of *3V*, which describes the characteristics of Big Data as Volume, Velocity and Variety. These concepts refer to the features of information and the process of obtaining it. Volume is associated with the amount of information, which is almost unlimited (enormous) and gathered from diverse sources, e.g. business and individual transactions, social media, sensor data (Watson & Marjanovic, 2013; Zhao *et al*., 2015; Hofacker, Malthouse, & Sultan, 2016; He, Wang, & Akula, 2017). What is more, the data is exchanged among devices and stored with the usage of such technologies as *Hadhoop*, *High Performance Computing Cluster (HPCC)* and *Hadapt* (He, Wang, & Akula, 2017). Velocity relates to the rate at which the data is formatted and accumulated, which happens rapidly. Sensors and smart meters require the handling of enormous amounts of data in close to real time (Jacobs, 2009). In other explanations velocity is associated with the speed of data (Watson & Marjanovic, 2013; Curry, 2016), which is especially visible 'when looking at the abundance of data that mobile devices generate about consumers and their movements' (Kaplan, 2016, p. 18). Linked to the first two, continuous data flow is also known as data streaming. Variety relates to the diversity of data and data sources, which are usually in different formats and with different level of structuring (Zikopoulos *et al*., 2012; Hofacker, Malthouse, & Sultan, 2016). Some researchers also add a fourth feature of Big Data – Veracity – which refers to uncertainty and credibility of the data obtained (Normandeau, 2013; IBM, 2014). Berner, Graupner and Maedche (2014, p. 14) explain that 'Big Data is associated with increased data volume, velocity and variety but decreased data veracity'. Veracity pertains to the need to verify the data acquired. It should be borne in mind that the data placed by Internet users on different web pages or platforms is not always accurate. In turn, this can affect the accuracy of conclusions, applications and finally decisions. And if the right decisions are an effect of Big Data Analysis, then the next V – Value can also be added (Fosso Wamba *et al*., 2015). Value is associated with the possibility of finding a proper scenario (solutions or decisions) for achieving and increasing competitive advantage. The features of Big Data presented above, on the background of literature review, can be named as 5V, where Volume, Velocity, Variety, Veracity and Value are distinguished.

Big Data is also presented as the tendency of searching, retrieving, collecting and processing available data (Shanmuganathan, 2014). This is a method of the legal gathering of information from various sources and then analysing them and using them for purposes of organisations. The most important problem related to Big Data is not only collecting the information but also processing it, analysing it, and using the conclusions in practice. That is why the term which is commonly used both in the literature and among practitioners refers to the significance of analysis and is called Big Data Analysis (BDA). Bumblauskas *et al*. (2017, p. 706) describe BDA as a 'huge data sets requiring advanced and unique data storage, management, analysis, visualization technologies as well as statistical analysis'. Organisations (e.g. companies, banks, insurance institutions, governments and educa-

tional units) can use Big Data Analysis according to the actions of their customers (Davenport, 2014). They have access to all customers who are Internet users or are registered in different computer systems (e.g. when they are registered as customers of a bank or a store). Curry (2016, p. 31) introduced this process as the Virtual Value Chain, where 'information flow is described as a series of steps needed to generate value and useful insights from data'. He has also introduced the idea of a Big Data Ecosystem, with different types of participants who form the market (both supply and consumer`s side), for example: data suppliers, technology providers, data end users, data marketplace, start-ups and entrepreneurs, researchers and academics, regulators, standardisation bodies, investors, venture capitalists, and incubators (Curry, 2016, p. 34).

Big Data is an invaluable collection of information about consumers, their needs and behaviours that are obtained from legitimate sources (Davenport, 2014; He, Wang, & Akula, 2017). There are many diverse sources of information that create the background of Big Data Analysis. For example, when consumers want to use a particular application by becoming a member of a variety of clubs or themed groups, when they set up accounts in various online stores, use various web portals, join loyalty programmes and, in other similar situations, they agree to their personal data being collected and processed. When consumers use different online tools, they leave 'traces' that can be used by analysts to select the proper information and prepare personalised offers for them (Davenport, 2014). For example, when a user is interested in a particular product, they search for information on Internet pages and in online stores. After some time such information (a selected offer) appears on the web pages which are currently visited by that person. Elsewhere, when individuals use online bank accounts for paying for specific goods and services (e.g. including electricity, water, and gas), the bank analyses these activities by showing them in different combinations. The analysis of data collected in Big Data sweeps allows companies to develop consumer profiles, define their needs and prepare tailored offers.

The analysis of Big Data is mainly concentrated on certain key groups of information sources. Firstly, there is streaming data, which contains data coming from Internet information systems or connected devices (He, Wang, & Akula, 2017). These can be analysed at the same moment, i.e. in real time as they happen. Instant decisions can be made about the significance of particular information (which of them should be stored and used and which should be further analysed). Secondly, there is data delivered by internal information and customer systems of the companies or other institutions. This data delivers information about customers, such as their behaviours and decisions. Thirdly, there is social media platform data, which is especially useful for customer services, sales and marketing. Information obtained from such platforms is very difficult to analyse. The reason for this is that such data does not contain numerical values which are easier comparable. They are usually analysed in terms of the presence and content of keywords, the appearance and frequency of the social users' presence on the platforms, and their activities (e.g. the character of posts and responses to others' posts). Bain & Company's research on Big Data usage acquired from social media shows that companies which use information obtained from social media analysis have gained an advantage over their competitors in various areas (Pearson & Wegener, 2013). The use of social media for interacting with customers influences the development of social commerce – the usage of social media in e-commerce (Hajli, 2015). The ability to prepare a customized offer for a potential customer/social media user is possible only thanks to

analysing Big Social Data. It delivers valuable knowledge and, if it is effectively used by a company, can increase a competitive advantage.

Competitive Advantage and Benefits of Big Data Analysis

Competitive advantage can be seen as 'being better than others'. 'Competitive advantage grows fundamentally out of value a firm is able to create for its buyers that exceeds the firm's costs of creating it' (Porter, 1985, p. 3), alternatively, competitive advantage is achieved when a company can generate more economic value than its competitors (Barney, 2011, p. 15). The wish to gain a competitive advantage leads to the continuous search for new sources of this advantage. Historically, these include two main analytical approaches: position-based, linked to the works of Porter (1980, 1985) and resource-based, largely associated with the work of, amongst others, Barney (1991) and Prahalad and Hamel (1990). According to the position-based approach, there are two fundamental types of competitive advantage: cost leadership and differentiation (Porter, 1985). The ability to achieve these advantages is determined by a company's business environment. According to the resource-based view, a company's competitive advantage results from unequal access to resources and their limited mobility (Barney, 1991; Prahalad & Hamel, 1990). The main two types of competitive advantage indicated by Porter (1980) or Barney (1991) and Prahalad and Hamel (1990) may have their origin in other, more detailed sources. The following should be highlighted among others (Veliyath & Fitzgerald, 2000; Arend, 2003; Fonfara, 2012; Sigalas, 2015; Deszczyński, 2016; Doyle & Perez-Alaniz, 2017; Maury, 2018): the technological sources associated with R&D or product innovations; the manufacturing sources associated with the quality, the product`s uniqueness and costs; marketing sources associated with market research and product adoption, the image of the company and loyalty of its customers; business relationships related to cooperation; time management – the ability to quickly response to the market changes and needs. Additionally, the digitalisation era impacts information and IT systems as sources of competitive advantage (Aguila Obra, Bruque Cámara, & Padilla Meléndez, 2002; Javalgi, Radulovich, Pendleton, & Scherer, 2005; O'Shannassy, 2008).The analysis of competitive advantage is inseparably linked to the problem of measuring it. Competitive advantage can only be identified by comparing one company to another. Such comparison may include general business performance or particular effects or outcomes achieved by companies (Ratajczak-Mrozek, 2017, p. 211). In the context of competitive advantage, performance can be considered from the financial perspective, for example in terms of sales and profitability (Covin & Slevin, 1990; Havens & Senneseth, 2001; Zahra, Ireland, & Hitt, 2000), or from the non-financial point of view, in terms of innovation (Hagedoorn & Cloodt, 2003; Knoben, 2008) or knowledge creation (Autio, Sapienza, & Almeida, 2000; Covin & Slevin, 1990; Hilmersson *et al.*, 2015). Although the assessment of competitive advantage based on business performance is not straightforward – due to the fact that competitive advantage is not a sufficient condition for above-average performance and there is no direct causal link between them – there is no better theoretical premise than treating the creation of competitive advantage as the main way of improving a company's performance (Powell, 2001). If general business performance data is not available competitive advantage may be assessed based on benefits and costs analysis. It includes the identification of particular positive and negative effects achieved by companies which, if the positive results outweigh the negative ones, may result in a competitive advantage (Ratajczak-Mrozek, 2017, p. 211).

The up-to-date research allows to present cost-benefit analysis of BDA, which is presented in Table 1. The data garnered by gathering the moves of Internet users from different sources are used and appreciated especially by companies that prepare personalised offers for their potential customers (Shanmuganathan, 2014; Wu *et al*., 2014). The data value for a particular company depends on the purpose of its usage. For example, it might use the information for reducing costs and time, preparing better product offers or making business decisions (Bumblauskas *et al*., 2017). The most important benefits of Big Data usage for companies are connected with cost and time savings because of the possibility to gain information about potential customers' needs very quickly and relatively cheaply (when compared to traditional marketing research procedures). Personalised offers, which are prepared for and given to customers, increase the possibility of buying (an increase in sales and gaining new customers). It has been proven that Big Data analysts are five times faster in making effective decisions than their competitors. Such companies had better financial results than their competitors who did not use BDA (Pearson & Wegener, 2013).

From the perspective of customers and individual users, Big Data analysis allows companies to develop personalised offers which meet their individual needs (Davenport, 2014; Hofacker, Malthouse, & Sultan, 2016). In turn, this influences the time they need to spend searching for (information about) products or services they are interested in.

Table 1. Cost-benefit analysis of BDA: Individual users and companies

BC Analysis	Benefits	Costs
For customers and individual users	- getting a personalised offer if they use different Internet sources; - saving time when searching for products or information about them.	- too much surveillance on individual users' Internet activity.
For companies	- provision of information about the market (both individual consumers and institutional units); - time and cost reduction; - more probability of sales increase; - more probability of getting new customers; - better financial results.	- complexity of data, which comes from many different sources (there is a need for their adaptation, segregation and conversion into different information systems); - necessity for strong control over the data because of its complexity and variability; - data storage; - data analysis (necessity to use advanced analysis tools and systems).

Source: own study.

Big Data usage is also connected with some limitations and costs. They are linked to the complexity and variability of data which come from diversified sources and can change very quickly (Zikopoulos *et al*., 2012). That is why, there is a need for constant data monitoring and control. Next, the costs for the company associated with mass data are, firstly, connected with its storage, and secondly, with the analysis (Bhat & Quadri, 2015). The more advanced the analysis conducted, the more innovative the technology and statistical systems need to be for calculations and conclusions (Bumblauskas *et al.,* 2017). On the other hand, for individual and average customers, Big Data is usually an unknown or incomprehensible phenomenon they are afraid of (Hofacker, Malthouse, & Sultan, 2016). For this reason Big Data is often met with doubt and resistance from consumers, who are afraid of the excessive interference of analysts and organisations into

their lives (Hofacker, Malthouse, & Sultan, 2016). Therefore, in order to protect data, governments normally create legal safeguards for personal data (e.g. the General Inspectorate for Personal Data Protection in Poland).

The results of the cost-benefit analysis of BDA usage show that valuable benefits appear to be stronger when compared to the costs, both from the perspective of companies and individual customers, although each time situation and achieved benefits or incurred costs of a particular company need to be taken into consideration. The economic results of Big Data Analysis can be observed by measuring the efficiency of marketing activities of companies (e.g. personalised products and communication, adapted promotional campaigns, relation building). However, such efficiency measures are available only for particular/ interested companies and not widely published.

The newest research makes an attempt to connect the BDA and competitive advantage (Constantinou & Kallinikos, 2015; Mikalef *et al*., 2016). Constantinou and Kallinikos (2015) analysed the usefulness of Big Data in the context of companies` strategy determination. They underline that Big Data is a significant source of valuable information which forms a challenge to strategy making. In the authors` opinion, the changes in information gathering and analysing (BDA) should be constantly combined with the social and institutional context. Only such a connection provides successful management (Constantinou & Kallinikos, 2015). In turn, Mikalef *et al*. (2016) proposed conceptual and theoretical research framework of using BDA as a general business potential and strategic value. Their research relies mainly on the resource-based view, IT-business and dynamic capabilities view theoretical conceptions. They suggest that companies by joining IT resources (e.g. IT Infrastructure, IT human skills & knowledge,) and the IT enabled dynamic capabilities (e.g. learning, coordinating, integrating) with the environmental factors (like IT competences and organisational capabilities and business strategy), are able to achieve competitive performance (Mikalef *et al.*, 2016). This theoretical model is one of the first in the literature which provides an attempt to relate companies` resources and BDA with the achievement of the competitive advantage.

ANALYSIS AND DISCUSSION

The Benefits Resulting from BDA and Achieved by Particular Industries

In order to answer the research questions, based on an analysis of secondary data presenting real life examples of BDA, in table 2 we provide examples of industries where particular benefits resulting from BDA have been identified. The identified industries are not the only examples where the BDA is used. These industries most often appeared in the publications about BDA (e.g. Constantinou & Kallinikos, 2015) and the industry reports (e.g. Popławski, 2017).

Table 2 shows the possibilities of benefits for particular industries, resulting from BDA. Production organisations usually use data by analysing them for, on the one hand, increasing the quality of their products and efficiency and, on the other hand, for minimising losses. They also often use consumers' knowledge to prepare an offer better adapted to the market (Taylor, 2014; Hofacker, Malthouse, & Sultan, 2016). What is more, companies use the obtained information to build relations with current and future customers.

Table 2. Examples of industries with particular benefits resulting from BDA

Industry	Benefits	General sources of advantage
Production companies	- increasing the quality of their products and their efficiency - minimising losses - building relations with customers	- product quality advantage - risk reduction advantage - customer relationships advantage
Service – banks	- improving banking tools which are offered to customers - building relationships with customers - assessing the credit risk or selection of customers for whom the bank will prepare a particular banking product - reducing potential fraud and ensuring compliance with supervisory regulations	- product quality advantage - risk reduction advantage - customer relationships advantage
Service – telecommunication	- preparing more suitable offers for customers - predicting future situations and updating the strategy	- product quality advantage - risk reduction advantage
Service – tourist industry	- preparing more suitable offers for customers - building relationships with customers - predicting future situations and updating the strategy	- product quality advantage - risk reduction advantage - customer relationships advantage
Retail – traditional	- increasing customer loyalty by personalising the offer - increasing customer interest in offers and increasing sales	- product quality advantage - customer relationships advantage
Retail – e-commerce	- increasing customer loyalty by personalising offers - developing more efficient e-commerce activities (better use of advertising budgets, purchase path optimisation) - increasing customer interest in offers and increasing sales	- product quality advantage - customer relationships advantage
Public sector institutions	- making more effective management decisions by optimizing costs - improving the quality of customer service - achieving transparency - greater accuracy of medical diagnosis - reducing money spent on healthcare and other public sector activities	- risk reduction advantage - customer relationships advantage

Source: own study.

The Big Data usage in banking institutions is connected with the constant analysis of information gathered from the market and improving banking tools which are offered to customers to make them satisfied (Srivastava & Gopalkrishnan, *2015*). In this industry BDA is used to assess the credit risk of customers, as well as provide information helpful for customer selection and preparation of offers regarding particular banking product. Banks also analyse mass information to reduce potential fraud and ensure compliance with supervisory regulations (Srivastava & Gopalkrishnan, *2015;* Saxena & Al-Tamimi, 2017). For example, Zhao *et al*. (2015) prepared a model for financial units to be better prepared for the potential failure of customers. This scheme was based on external Big Data and used to increase the predictability of the potential future negative effects. In practice, banks collect data from their users' account movements (e.g. payments, their size and type of

items purchased). Not just banks, but also other service agencies such as telecommunications or tourism companies analyse data about clients that is collected and help on their information systems and from this they attempt to prepare them the best offer. BDA also helps organisations to predict what will happen in the future (ranging from the coming weeks and months to even several years). Based on such data, telecom companies update their business strategies and actively respond to rapid changes in consumer preferences. Innovative analytical solutions help to strengthen their competitive advantage. Moreover, those companies using the BDA results and preparing special offers for potential customers are able to build closer relationships with them. Customers are able to trust and relate to companies that prepare specialised and customized offers.

The great importance of BDA is also observed in the activities of retailers (including e-commerce), where the main purpose is to generate consumer interest in an offer and subsequent sale. One such an example of using BDA for improving management is Tesco in Malaysia, which had a problem with customer loyalty (Manjur, 2014). Tesco used an analysis of market trends, data acquired from loyalty cards (e.g. what the customers were buying, when they were buying, etc.) in order to better personalise offers for particular customers. The efficiency of this BDA is clear; Tesco reactivated 3.000 of its customers and the level of loyalty increased by 30% (Ibid.). Additionally, we found that in retail sectors BDA does not just help personalise offers for customers, but also allows companies to tailor promotions or even to take advantage of local conditions in the case of nationwide retail chains (McAfee & Brynjolfsson, 2012).

BDA also brings about many opportunities for e-commerce units. For example, Amazon developed algorithms 'to predict what books individual customers would like to read next', which in turn increased customer satisfaction and sales (McAfee & Brynjolfsson, 2012, p. 4). In e-commerce BDA can take into account many types of information, such as: shopping volume, numbers of visits on a web page, and the data of registered customers in order to adapt special offer that fits customers' needs and preferences. E-commerce platforms usually use multiple different sources for these same purposes, such as statistics systems (*Google Analytics*), advertising systems (e.g. *AdWords*), and Customer Relations Management systems (e.g. how many times a particular customer has contacted the company, personal data, and purchase history, etc.), mailing systems, social media profiles (e.g. current interests and 'likes'). The results of the analysis of such data can develop more efficient e-commerce activities in order to provide better results including sales increases, better price management, better use of advertising budgets, recognition of the customers preferences, adaptation of offers, and purchase path optimisation, etc. (Davenport, 2014). Big Data can be both an opportunity and a challenge to e-commerce companies as Amazon, eBay or Allegro. The usage of BDA by the companies has also an advantage from the customers` point of view. In our opinion, personalised promotions and offers are especially useful for customers who are, firstly, active Internet users, and secondly lack time for searching for the best products.

Finally, the public sector institutions can also use BDA for improving their management, optimising costs or improving the quality of their customer services. For example, former mayor of New York, Mike Bloomberg, developed a new unit called Chief Analytics Office, whose main task is to collect and collate available data from all departments and offices. The data obtained should then be gathered and analysed in an efficient manner to

make successful decisions. This system of Big Data analysis, introduced in New York, allows for more effective management decisions in the city in many key areas, including: traffic, security services, and emergency response. In other public sector institutions, for example the healthcare industry, it is possible to gain higher transparency and greater accuracy of medical diagnosis by digitising medical records and results of clinical research, and it also helps to reduce money spent on healthcare (Groves *et al*., 2013).

The analysis conducted and presented above indicates that although the benefits achieved from BDA by particular industries are interlinked and often repeat themselves, we may identify some differences. We believe that these differences result from the specificity of particular industries, as well as their daily operations and applied strategies.

Based on the presented examples, the answer to the question if also small companies may achieve benefits and competitive advantage from BDA or if BDA is only achievable for large corporations, is not straightforward. Although at least theoretically, and based on declarations from analytical companies, the application of BDA is not limited to large companies, the actual real life examples of BDA used in particular industries or companies mostly come from case studies of large companies (Rising, Kristensen, & Tjerrild-Hansen, 2014; Mikalef *et al*., 2017). We believe that the reasons behind such a situation are at least twofold. First of all, conducting BDA requires a certain amount of resource investments. These include costs of systems for collecting data, servers to store large amounts of data, and systems and capabilities to analyse the data. Such systems and servers may be outsourced. However, even outsourcing requires investment, which is often considerable. Second of all, applying BDA requires a degree of managerial awareness as to BDA's ultimate profitability, which is not always the case in micro and small companies, especially those that are active in more traditional and non-digitalised industries. However, the conclusions from the industry reports concerning the BDA usage show that not only corporations and large companies will use the BDA for the achievement of their purposes (Popławski, 2017).

General Sources of Competitive Advantage Resulting from BDA

Based on the identified benefits of BDA we may conceptualise three main general sources of advantages resulting from BDA (Table 2). This conceptualisation may be linked to both position-based (Porter, 1985) and resource-based (Barney, 1991; Prahalad & Hamel, 1990) view of competitive advantage. These identified by us Big Data-driven general sources of advantages are: product quality advantage, risk reduction advantage, and customer relationships advantage. Product quality advantage and risk reduction advantage may be seen as the most basic ones; BDA leads to more adequate and personalised products or services which, in turn, should result in sales increases. Only in the case of public sector institutions, which do not sell typical products or services (or at least do not want to be perceived as typical sellers), product quality advantage is not the main advantage achieved from BDA. Product quality advantage and risk reduction (related to some extent to cost advantage) may be linked to Porter's (1985) position-based view of competitive advantage. However, BDA does not only provide product quality and risk reduction. It can be also linked to the resource-based view and particularly to the relationships and network view on competitive advantage (which among others originates from the resource-based view (Ratajczak-Mrozek, 2017)). It is interesting that customer relationship advantages linked to the fostering of customer loyalty and more long-term relationships with customers is more often mentioned in the case of production and retail industries, as well as public sector, but not

service companies. This may be linked to the fact that most of the mentioned examples from service industries concern banks and financial institutions or telecommunications companies, which are usually big global companies with a large amount of power. Three Big Data-driven general sources of advantage identified by us are not exclusive but complementary. The source of competitive advantage achieved from BDA depends on the type of company and industry. The biggest benefits are identified in the companies that take into account the needs and temporary preferences of the potential customer. As our analysis of real life examples of the BDA application indicated, it is possible to benefit at the same time from all three sources of Big Data-driven advantage.

CONCLUSIONS

BDA may be perceived as an important source of competitive advantage (*Big Data przynosi istotne korzyści biznesowe*, 2015). Based on the conducted analysis, particular benefits arising from BDA usage were identified. Further to this, three main general sources of advantage resulting from BDA have been proposed: product quality advantage, risk reduction advantage, and customer relationships advantage. A product quality advantage means offering more adequate and suitable, often personalised, products or services to customers, which in turn leads to an increase in sales. The risk reduction advantage concerns risk reduction of both daily operations and long-termed strategic actions (such as predicting future situations and updating the strategy). Finally, the customer relationships advantage is linked to the fostering of customer loyalty and more long-term relationships with customers. All of these advantages can lead to higher profitability.

The conducted analysis has a number of managerial implications. If one wants to achieve a competitive advantage, then BDA constitutes an important potential solution. However, a certain level of managerial awareness is required first in order to implement such a solution. An awareness of particular benefits which have already been achieved by competitors in the same industry by applying BDA may be an important trigger for a company to consider implementing their own BDA. This is the case irrespective of company size. It must be remembered that sometimes managers do not include all Big Data analyses when optimising their business decisions because there is, in a sense, information overload (Power, 2002). This overloading paralyses managers' decision making and actions (Bumblauskas *et al*., 2017). In this situation, hiring specialists or experienced external companies providing BDA solutions may be the required form of action. We do believe that BDA and its results can and should be developed not only by corporations and big companies, but also by small and medium-sized companies in order to be more competitive on the market. Furthermore, in the digitalized era the costs of the Big Data usage is relatively low compared to the potential results achieved. What is more, smaller companies do not have to buy very expensive computer programmes for data analysis or hire many professionals for statistical analysis. They can use their strength as a possibility for fast adaptations and changes, which can result from analysis of internal data and/or market observation.

The conducted analysis is not free of limitations, although at the same time we believe that these can direct further research. One of the main research limitations is the lack of empirical research and articles showing the scope and usage of BDA. The reason for this is, firstly, a specific and technically advanced way of achieving the data, and secondly many companies are reticent about sharing their knowledge in the field of gathering data. Instead,

companies usually underline the importance of BDA but do not disseminate their own activities. This is due to the potentially large competitive advantage which BDA usage can bring. Future research which could enhance the knowledge of BDA regarding different industries can and should include both quantitative and qualitative methods. Likewise, more fine-grained results could be achieved with a focus on a particular industry, which would bring insights into competitive advantages resulting from BDA in different sectors.

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The Role of Work Experience in Studying and Career Development in Tourism: A Case Study of Tourism and Hospitality Students from Northern Poland

Aleksandra Grobelna, Anna Dolot

ABSTRACT

Objective: The aim of this study is to develop and test a research model that investigates relationships between students' perception of the nature of tourism work and industry-person congeniality and both their burnout and engagement in their studies, both of which may relate significantly with students' career aspirations in tourism.

Research Design & Methods: 158 tourism and hospitality students with work experience in the tourism industry filled in an anonymous paper-based self-administrated questionnaires.

Findings: There are positive and significant correlations between perceived nature of tourism work, industry-person congeniality and students' dedication. Simultaneously, the perceived nature of tourism work and industry-person congeniality correlate negatively with students' cynicism towards their studies.

Implications & Recommendations: There is a need for putting a greater concern on the person-job fit during both enrolment procedures for tourism and hospitality courses in higher education and while recruiting candidates for service job positions in the tourism industry. Greater attention should be put by practitioners on students' work experience, as it may have an impact on the youth's attitudes towards their future employment in tourism.

Contribution & Value Added: The research value of this study may result from the fact that both students' burnout and engagement has not been widely explored in the management literature.

Article type: research paper

Keywords: nature of tourism work; industry-person congeniality; students' engagement; burnout; employment aspirations

JEL codes: J24, J81

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INTRODUCTION

The importance of educated, enthusiastic and committed workforce cannot be underestimated for service industries in general, and the tourism industry in particular (Kusluvan & Kusluvan, 2000, p. 253). This industry is considered as one of the major sectors in which human resources are seen as significant and highly dependent on professional education (Tuna, Kanten, Yeşiltaş, Kanten, & Alparslan, 2014, p. 139). Although it seems that nowadays the employee's development process is becoming long-life, this process – of actual adult man education – starts during higher education.

The concept of students engaged in part-time and full-time employment while studying is increasingly commonplace (Watts & Pickering, 2000; Jogaratnam & Buchanan, 2004; Barron, 2007; Uludağ & Yaratan, 2010). Scientific papers show that there is an increasing number of students undertaking employment during the term (Watts & Pickering, 2000). A large proportion of students must handle one or more jobs to help pay for college or university expenses while attempting to balance curricular and programme demands, as it requires completion of internships as a part of degree requirements (Jogaratnam & Buchanan, 2004; Barron, 2007). The abovementioned research concerns tourism and hospitality students. Internships, as well as first jobs, give students an opportunity to be a part of the tourism industry, gain experience but additional activities undertaken during one's studies are as well a kind of hardship. The tourism and hotel sector faces numerous difficulties that may influence the student's perception of work itself. Meanwhile, an image of a particular industry will have a major effect on potential recruits' perception of the industry, which will impact the quality and quantity of future staff (Riley, Ladkin, & Szivas, 2002).

The aim of this article is developing and testing a research model that investigates relationships between the perception of the nature of tourism work and industry-person congeniality and students' engagement in their studies manifested in their dedication to the undertaken studies and burnout manifested in students' cynical attitude towards their studies. Additionally, the consequences of students' engagement and burnout for their employment aspiration in tourism are also analysed.

The structure of this article is as follows: at the beginning the literature review is presented. Then the research concept, data collection procedure and measurements are discussed. Important part of this article is the presentation and discussion of the results.

LITERATURE REVIEW AND THEORY

Nature of Tourism Work

The image of the tourism industry seems to have two sides. On the one hand, the industry is seen as a glamorous one, while on the other hand it is deemed as struggling with a wide variety of difficulties (Riley, Ladkin, & Szivas, 2002). Working shifts, as well as working hours and days (also public holidays) make it difficult to establish a work-life balance and constitute a disadvantage (Wan, Wong, & Kong, 2014). Low wages constitute a significant problem, especially in the hospitality sector (Poulston, 2008). Another significant obstacle is lack or limited employee training (Davidson, Timo, & Wang, 2010; Dolot, 2017) in parallel with existing training areas (Peters & Buhalis, 2004). In consequence, the hospitality sector has a rather negative image on the labour market in general (Dickinson & Ineson, 1993),

but also in the eyes of hospitality students (Jenkins, 2001), and it struggles with difficulties in recruiting, keeping employees, resulting in staff shortages (Zhang Qiu & Lam, 2004) and high staff turnover (Davidson, Timo, & Wang, 2010).

Hospitality and tourism students may confront the burnout syndrome which may lead to more serious academic erosion than in the case of students of other disciplines (Uludağ & Yaratan, 2010, pp. 13-14). As burnout is defined as a three-dimensional syndrome of emotional exhaustion, lack of personal accomplishment and depersonalisation, cynical attitudes towards one's job is a good example of this last dimension (Maslach & Jackson, 1981). The term of burnout is also defined in the context of students: students' burnout is 'feeling exhausted because of study demands (exhaustion), having a cynical and detached attitude towards one's schoolwork (cynicism), and feeling incompetent as a student (reduced efficacy also known as reduced academic efficacy)' (Schaufeli, Martinez, Marques-Pinto, Salanova, & Bakker, 2002, p. 465). As the specialists highlight, burnout emerges gradually in the shape of emotional burnout, cynicism, and then low personal accomplishment (Duru, Duru, & Balkis, 2014).

There is already research in the area of cynicism negatively related to dedication (Schaufeli & Bakker, 2004), negative relationships between exhaustion and vigour, cynicism and dedication (Bakker, Demerouti, & Schaufeli, 2005) or cynicism negatively associated with students' dedication (Uludağ & Yaratan, 2010).

An important issue emerges here: students' attitude already formed during the educational process constitutes a minority of their professional attitude in the tourism and hospitality sector where dedication as well as personality traits are crucial in direct contact with the tourism and hospitality guests. Therefore, it is a posit:

H1: The perceived nature of work in tourism is positively related to students' dedication to their studies (H1a) and negatively related to their cynicism towards their studies (H1b).

Industry-person Congeniality in the Tourism and Hospitality Sector

One of important elements that influences the attitude, career plans and employment aspirations in tourism and hospitality is industry-person congeniality (Kusluvan & Kusluvan, 2000; Teng, 2008). Dimensions that may define industry-person congeniality is confidence that someone's personality and character match closely the types of jobs available in the industry, confidence that one will get an opportunity to use their skills and abilities working in the industry, that one will get pleasure out of seeing satisfied customers and finally that one will find pleasure working in the industry.

Industry-person congeniality is significantly important in service industries in general but in the tourism and hospitality sector in particular. Most services in this sector are based on human performance, services are produced and consumed simultaneously in a face-to-face exchange situation and employees and customers are close physically and psychologically (Kusluvan & Kusluvan, 2000, p. 253). Service providers have to rely heavily on the competence and ability of their employees to understand consumer requirements and react in a timely and appropriate manner (Ghobadian, Speller, & Jones, 1994), including dealing with emotional expressions of customers (Rafaeli, 1989). That demands special character, abilities and skills that employees should posses. The tourism and hotel industry is

classified as a high service encounter one, which means that employees contact customers more frequently and widely (Lin, 2007).

In line with the abovementioned theory the following hypothesis is proposed:

H2: The perceived industry-person congeniality is positively related to students' dedication to their studies (H2a) and negatively related to their cynicism towards their studies (H2b).

Tourism Students' Attitude, Career Plans and Employment Aspirations

Not only is the image and nature of the tourism industry ambiguous but also tourism students' and graduates' employment aspirations are. Ross's research shows a positive attitude, career plans and employment aspirations of tourism students and graduates. He highlighted that school leavers interested in tourism and hospitality positions generally placed a higher than average value on achievement in their prospective professional life (1991). He emphasised that Australian secondary school students had a high level of interest in management positions in the tourism and hospitality sector (1992). Positive experience and perceptions of the hospitality industry were the main reasons for UK hotel and catering graduates being attracted to studying hospitality management (Purcell & Quinn, 1996).

Simultaneously, there is research investigating the attitude, career plans and employment aspirations of people who currently work in the tourism and hospitality sector. Choy's study (1995) showed that large majority of Hawai tourism industry workers were satisfied with their jobs.

Studies show students' and graduates' negative attitude, career plans and employment aspirations in the tourism and hospitality sector. Pavesic and Brymer (1990) highlight that a substantial number of graduates leave tourism jobs due to low job satisfaction, poor work conditions and lack of motivating factors. It seems to be specially observed nowadays. Recent studies discuss the issues pertaining to students' commitment to join the hospitality industry after their graduation (Kusluvan & Kusluvan, 2000).

Career experiences and perceptions of graduates in the tourism and hospitality sector are investigated worldwide: in the United States of America (Jogaratnam & Buchanan, 2004; Richardson & Thomas, 2012), Australia (Richardson, 2010), China (Jiang & Tribe, 2009), Taiwan (Teng, 2008), Malaysia (Richardson & Butler, 2012), Turkey (Kusluvan & Kusluvan, 2000), Western (Jenkins, 2001) and Southern Europe (Uludağ & Yaratan, 2010).

It seems that there is a gap in this kind of studies in Central Europe, especially in the abovementioned dimensions: the nature of work in tourism, students' dedication to their studies, students' cynicism towards their studies, and students' aspirations for employment in the tourism industry. That is why, the last two hypotheses are:

H3: Students' dedication to their studies is positively related to their aspirations for employment in the tourism industry.

H4: Students' cynicism towards their studies is negatively related to their aspirations for employment in the tourism industry.

MATERIAL AND METHODS

Research Concept

This study is part of an integrated research project on tourism and hospitality students' perception of their future employment in the industry (Grobelna & Tokarz-Kocik, 2018).

This study develops and tests a research model (Figure 1) that investigates relationships between the perception of the nature of tourism work (NAT_WORK) and industry-person congeniality (I-P_CONG) and students' engagement in their studies manifested in their dedication (S_DED) to the undertaken studies and burnout manifested in students' cynical attitude (S_CY) towards their studies. Additionally, the consequences of students' engagement and burnout for their employment aspiration in tourism (EMP_ASPi) are analysed.

The conceptual model and all the hypothesised relationships are presented in Figure 1.

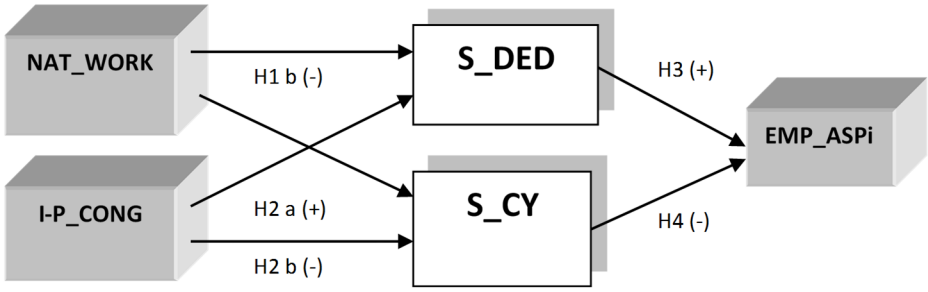

Figure 1. Conceptual Model

Note: NAT_WORK (Nature of Work); I-P_CONG (Industry-Person Congeniality); S_DED (Student's Dedication); S_CY (Student's Cynicism); EMP_ASPi (Employment Aspirations)

Source: own elaboration.

Data Collection Procedure

In this study purposive sampling was chosen. The research was conducted among tourism and hospitality (T&H) students who declared their work experience in tourism. As literature emphasises, students with work experience may have more realistic views regarding their future jobs and may have been ready to make their job decision (see Teng, 2008). This is also proved by the results of previous works which showed that students' early work experience may have an impact on their attitudes towards and perceptions of the career in the tourism and/or hospitality industry (e.g. Barron, Maxwell, Broadbridge, & Ogden, 2007; 2010). For example, in a study of Grobelna and Marciszewska (2016a), it was found that tourism and hospitality students who were currently working in the industry were more likely than others to claim a good understanding of the nature of work in their learning fields. Therefore, it sounds reasonable that this group of respondents, having observation and experience of the real work, may provide adequate feedback on the research problems being under investigation of this study.

Three higher education institutions (HEI), both public and private, were identified as the target group for this study for the following reasons. First, all of them have the educational offer in the tourism and/or hospitality field and agreed to participate in the study. Second, they were located in the Tricity agglomeration that is perceived as a big

economic and academic centre of the Pomerania region (Gospodarka, 2010), that educates employees for the needs of the tourism industry and offers new jobs in this field (Grobelna & Marciszewska, 2016b). Thus, choosing HEI located in the Tricity agglomeration location seems justified in the context of this study.

The research was conducted between January and February 2018. The auditorium survey technique was applied to gather the data. Respondents were requested to fill in the paper-based self-administrated questionnaires that were distributed to students during the teaching time agreed with the lecturers of the participating HEI. The research was conducted following a detailed explanation of its purpose. Additionally, the students were informed that their participation was voluntary and was not a formal part of their obligatory study programme (Barron *et al*., 2007). All questionnaires were anonymous, and students were assured of the confidentiality of their answers.

It is worth noticing that self-administrated questionnaires are considered to be some of the most popular tools in social research with some added advantages (see Gray Williamson, Karp, & Dalphin, 2007). There is no pressure on the respondents to reply immediately, as it gives them as much time as they need to consider each survey question carefully.

All the above aspects, including the controlled nature of the questionnaire administration during formal class time and under supervision of the researcher, contributed to achieving a maximum response (Barron, 2007). As a result, in this study 158 usable surveys were obtained after deleting any incomplete questionnaires (14 surveys), resulting in a response rate of 91.86%.

Measurement

To operationalise the study constructs, the existing and well-established scales were used from the relevant literature and previous studies. To measure the perceived nature of work in tourism (NAT_WORK) and students' industry-person congeniality (I_P CONG), selected items were used from Kusluvan and Kusluvan (2000) who developed a multi-dimensional and multi-item attitude scale to measure students' attitudes towards work in the tourism industry. In this study, five and six items were used respectively for NAT_WORK (items No. 1, 2, 4, 5, 8) and for I_P CONG (items No. 2, 4, 6, 7, 9, 10). Those items were chosen carefully on the basis on detailed literature review and in reference to the best of the researchers' knowledge and their expertise in the field of tourism and hospitality industry, taking Poland as its setting. It is worth noticing that Kusluvan and Kusluvan' attitude scale (2000), or its selected items, were also used in many previous studies among tourism and/or hospitality students in different geographical settings, including Australia (Richardson, 2010), Taiwan (Teng, 2008) or the United States (Richardson, & Thomas, 2012). Sample items are: 'I find jobs in the tourism industry interesting' (NAT_WORK) or 'My character fits to working in the tourism industry' (I-P_CONG).

Cynicism (S_CY) was measured via four items from the Maslach Burnout Inventory-Student Survey (MBI-SS; Schaufeli *et al.*, 2002). A sample item is: 'I have become less enthusiastic about my studies'. The empirical attention of this study is also shifted toward the opposite of burnout, i.e. engagement (Schaufeli *et al*., 2002). In the context of this study, students' engagement can be perceived as their positive and fulfilling state of mind characterised by vigour, dedication and involvement in their studies (see Schaufeli *et al.*, 2002). Dedication (S_DED), as one of the engagement's dimensions, was used and assessed via five items from the Utrecht Work Engagement Scale for Students (UWES-S; Schaufeli *et al.*, 2002). A sample

item is 'I find my studies to be full of meaning and purpose'. MBI-SS and UWES-S scales were successfully applied and tested in a study by Uludag and Yaratan (2010) among undergraduate hospitality and tourism students in Northern Cyprus.

Students' employment aspirations (EMP_ASPi) were assessed via four items from Teng (2008), who applied them successfully to measure hospitality employment aspirations in a study among post-internship undergraduate hospitality seniors in Taiwan. However, given the fact that in this study students' employment aspirations referred to their attitudes in terms of the commitment to the tourism industry in general, the items used in this study were reworded accordingly. A sample is: 'I would like to work in the tourism industry after graduation'.

Responses to the scale items were elicited on five-point scales, ranging from (1) strongly disagree to (5) strongly agree. Some items were also reverse-coded according to their cited sources. Higher scores indicated higher industry-person congeniality, more favourable perception of the nature of work in tourism, higher employment aspirations in tourism, and also higher students' cynicism towards their studies. Demographic data were also collected to ascertain the respondents' profiles.

Before collecting data, the survey instrument was administrated to a pilot sample consisting of T&H students for its verification. Feedback from the pilot group confirmed no difficulties with good understanding of the scale items in the survey instrument.

In this study, descriptive statistics and reliability analysis were performed. To verify the relationship between the study variables, Pearson's correlation was applied. The collected data were analysed using Statistical Package for Social Sciences (SPSS), version 25.

RESULTS AND DISCUSSION

The majority of the study respondents were females (81.6%). Nearly half of the participants (49.4%) were between 22-25 years old, and slightly fewer (43%) declared their age between 18-21 years (43%). The remaining ones (7.6%) were 26 years old or older. All of the surveyed students have rich work experience, indicating different sectors of tourism: food & beverage (61.4%), hospitality services (43%), travel agencies/tour operators (7%), tour guiding (4.4%) or transport services (3.2%). All respondents were bachelor students.

To test for internal consistency of the scales and their reliability, Cronbach's alpha was calculated (Nunnally, 1978). The reliability values for the scales were as follows: 0.78 for EMP_ASPi; 0.83 for S_DED; 0.85 for S_CY; 0.78 for I_P CONG and 0.55 for NAT_WORK. Although the last coefficient alpha (for NAT_WORK) is below the recommended value of 0.7, similar or even lower reliability values were still regarded as sufficient in previous studies, given the early stages of exploratory research (Kwok, Adams, & Feng, 2012; Richardson, 2010; Richardson & Thomas, 2012).

Means and standard deviations of the study variables are presented in Table 1. It is worth noticing that the respondents' (average) study dedication level was 3.42. They manifested their cynicism towards the undertaken studies at the level of 2.83. Thus, it can be stated that students in this study perceive themselves more dedicated towards their current studies than displaying cynical attitudes to them. The average perceived nature of tourism work and industry-person congeniality scores in this study was 3.55 and 3.83, respectively. A higher industry-person congeniality score shows that the students seem to

perceive themselves as quite well fitted to the service jobs in tourism. The specific nature of work in tourism is perceived in slightly less favourable terms.

Table 1. Descriptive statistics

Variable / Measure	NAT_WORK	I-P_CONG	S_DED	S_CY	EMP_ASPi
Mean	3.55	3.83	3.42	2.83	3.60
Std. dev.	0.53	0.63	0.75	0.94	0.86

Source: own study.

As depicted in Figure 2, there are positive and significant correlations between perceived NAT_WORK, I-P_CON and S_DED, providing empirical support for Hypotheses 1a and 2a, respectively. The more favourable students' perception of the nature of tourism work is, and the more they feel fitted to the demands of tourism work, the more dedicated to their studies they become.

The findings of this study also revealed negative and significant correlations between perceived NAT_WORK, I-P_CONG and S_CY, providing empirical support for Hypotheses 1b and 2b. The more negative perception of tourism work respondents of this study hold, the lower their interest in their current studies is. Such students are becoming more cynical towards their studies, losing their purpose and meaning. Similarly, the lower the students' conviction about their being suited for customer-oriented service jobs in tourism, the more doubtful they feel about potential usefulness of their studies and their significance.

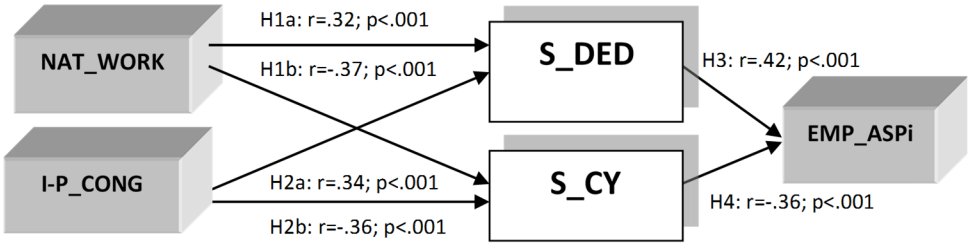

Figure 2. Verified model

Note: NAT_WORK (Nature of Work); I-P_CONG (Industry-Person Congeniality); S_DED (Students' Dedication); S_CY (Students' Cynicism); EMP_ASPi (Employment Aspirations)

Source: own elaboration.

Finally, it was revealed that an increase in both S_DED and S_CY may significantly relate to students' employment aspirations in tourism, but in different directions, providing support for hypotheses 3 and 4. The more students are dedicated towards their current studies, the more optimistic they are towards their future employment in tourism. This is in contrast to those who are cynical about their studies and who lose their purpose, as they may not have serious aspirations for employment in tourism.

In post hoc analysis, it was also revealed that there is quite a strong and positive correlation between I-P_CONG and NAT_WORK ($r=0.55$; $p<0.001$). This may show that the greater students' agreement with being suited for the requirements of service jobs in tourism, the more favourably they perceive the nature of work in tourism.

As hypothesised, both NAT_WORK and I-P_CONG may play an important role in increasing students' dedication towards their current study in tourism and/or hospitality fields. It may suggest that tourism and hospitality students who have a favourable perception of the nature of tourism work and perceive a better fit with it, feel greater enthusiasm about their studies, inspiration and pride in them. Such students may also have higher aspirations for employment in the tourism industry, in contrast to those who are not convinced about being suited to the service demands of tourism work and perceive its nature in less favourable light. Summarising, both the perceived nature of the tourism work and person-job fit can be perceived in this study as key factors that may determine the attractiveness of the undertaken studies, which in turn may affect students' attitudes and perceptions of their careers in tourism.

This study also provides support for the findings of previous studies where the demanding nature of tourism work and lack of confidence in being suitable for work in tourism were indicated by students among the main reasons for the lack of their commitment to work in the tourism industry after graduation (see e.g. Grobelna & Marciszewska, 2016a). Similarly, in Teng's study (2008) it was shown, among others, that both NAT_WORK and I-P_CONG were found among predictors of students' employment aspiration. Specifically, it was revealed that students hold unfavourable attitudes towards getting hospitality jobs after graduation being least satisfied with the nature of that work. In Kusluvan and Kusluvan's work (2000), most respondents complained that they 'felt as a slave' (p. 257) while working in tourism. Similar results were achieved by Richardson and Thomas (2012) in their study among hospitality and tourism students. By contrast, if students feel that their personal traits fit tourism jobs well, they may wish to follow careers in the field of education such as tourism, as shown in Jiang and Tribe's (2009) work.

As to theoretical contributions, this study adds to the growing body of two main research streams. One of them covers issues of students' attitudes and perceptions towards their future career in tourism and/or hospitality industry (e.g. Jiang & Tribe, 2009; Kusluvan & Kusluvan, 2000; Richardson, 2010; Richardson & Butler, 2012; Teng, 2008). The other one refers to the burnout and engagement in students (e.g. Schaufeli *et al*., 2002; Uludağ & Yaratan, 2010) and constitutes a particularly interesting area of new research, as a study examining burnout among T&H students (non-occupational individuals) 'expands the original theory of burnout that deals mainly with people who have occupations' (Uludağ & Yaratan, 2010, p. 14). The research value of this study may result from the fact that, to the best of authors' knowledge, this study is among the first to make an attempt to link study areas from two main research streams into one empirical investigation and analyse the proposed relationships in one conceptual model, expanding study results to the new context of tourism and hospitality students in Northern Poland.

CONCLUSIONS

The research concept reflects an integrated approach that should contribute to a better understanding of how job-related factors perceived by T&H students may shape their attitudes towards undertaken studies, and how they may relate to students' perception of the tourism industry attractiveness as a place of their future employment. The study also aimed to answer calls for research in the current understanding of the perception and attitudes of young

people to their potential careers in the tourism industry (Richardson, 2010), as this research area has still received little empirical attention (Kusluvan & Kusluvan, 2000).

This study results may emphasize a need for putting a greater concern on the person-job fit during both enrolment procedures for tourism and hospitality courses in higher education and while recruiting candidates for service job positions in the tourism industry. Moreover, given the perceived nature of tourism work, practitioners are recommended to take greater care of students' work experience, as it may have a potential impact on youth's attitudes towards their education in tourism and their future employment in the sector. Similarly, educators are suggested to provide students with more opportunities for practical learning, as it may shape students' realistic expectations towards work in tourism and may help them to be more aware of the specific nature and requirements of tourism jobs. This may include a case study and role playing used during academic classes. Both methods should be based on real, especially challenging business cases.

This study has some limitations. Due to the fact that the research was conducted only among students of three HEI from the Tricity, the results of this study cannot be generalised. Future studies with a larger sample of tourism and hospitality students from other HEI located in different geographical regions of Poland are recommended. However, in spite of that limitation, the findings of this study can constitute a basis for discussion and a starting point for future extended research on factors influencing students' attitudes towards and perception of their future employment in tourism. It could be interesting to add to the conceptual model also other variables coming from the area of education (e.g. length of practical training, teaching techniques, type of study, etc.), industry (e.g. empowerment, training, rewards, etc.) and individuals including their personality traits. All these aspects could potentially affect students' attitudes and perceptions towards both their studies and careers in the fields of education.

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The Classroom of the Future: Disrupting the Concept of Contemporary Business Education

Anna Tarabasz, Marko Selaković, Christopher Abraham

ABSTRACT

Objective: The goal of the article is to discuss and elaborate on the skillset required in education of managers and entrepreneurs to face challenges of their future positions.

Research Design & Methods: The article is of a descriptive character, based on literature review and its constructive criticism. It presents a case study of S P Jain School of Global Management in Dubai/Mumbai/Singapore/Sydney and experts' insights.

Findings: The classroom of the future, based on idea of design thinking lab, equipped with the most modern solutions of Virtual and Augmented Reality (VR, AR), interactive detachable workstations, shareable smartboards and interactive video display walls, seems to be the passport to success in the digital world. Immersive interaction with AI, ubiquitous computing and technology exposure prepare contemporary business students for future working space, encompassing a variety of problems to be solved, allowing to attain new skills and a smooth transit from education to a desired job or entrepreneurship practice.

Implications & Recommendations: The creation of 'future ready' graduates requires an innovative mindset and agility to evolve and adapt continuously, with simultaneous focus on disruptive innovation through digital transformation. Incorporating latest digital technologies and innovations into the learning environment seems to be competitive advantage and the key to success on education market.

Contribution & Value Added: The article in subsequent chapters lists the awaited skills of future entrepreneurs and managers, indicates available solutions and technologies to boost classroom experience and gives a practical example of technology use. Moreover, it indicates transformation pathway for business schools to embrace challenges of the future labour market and equip their graduates with hands-on experience and required skills.

Article type: conceptual article

Keywords: classroom of the Future; business education; economic education

JEL codes: O33, O31, I23, I25, M16

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INTRODUCTION

In the era of the Fourth Industrial Revolution, the paradigm of universities has passed through the chain of significant changes (Drew, 2014). They are now playing the key role in the training process (Mitra, Musingwini, Neingo, & Adam, 2018), currently preparing students for jobs that do not exist yet; to use technologies that have not been invented to solve problems we do not perceive as problems yet (Fisch, McLeod, & Brenman, 2015). The entire concept becomes even more complex at global universities, that must manage international student groups (Ploae, 2016). This approach is extremely important to business school graduates, due to contemporary universities' ongoing focus on passive, one-way lectures with the minimum use of boosting students' creative thinking and problem solving. The educational sector should enhance their entrepreneurial spirit, competitiveness and economic growth (Nowak, 2016; European Commission, 2012) and focus on the development of skills required by the future labour market.

In the times of digital transformation, a simple recipe for the success seems to be hidden in permanent improvements, adjustments and modifications (Westerman, Bonnet, & McAfee, 2014). Organisational ambidexterity has become a must in new digital ecosystems (Hernaus, Miocic, & Aleksic, 2016). However, the approach of the academia regarding the paradigm changes needs to be put under the spotlight. Universities need to reinvent the learning approach to anticipate challenges of the new business ecosystem.

To fulfil the same and showcase hidden opportunities, the main goal of this article is to discuss and elaborate on the skillset required by future managers and entrepreneurs to face the challenges of their forthcoming positions. To achieve it, this conceptual article, descriptive in its nature, will be based on a profound and critical analysis of literature. It will introduce the concept of the classroom of the future to understand the importance of the transition from the blackboard and chalk to an immersive interaction with ubiquitous technology. In its subsequent parts it will define technologies added to classroom experience and define skills required from future graduates. Last but not least, to give a practical example of new approaches and concepts of the classroom of the future in the emerging markets and countries, it will use the case study method, based on the transformation example of S P Jain School of Global Management (SPJ). By using the approach of disruptive innovation, SPJ became the youngest top-ranked business school, listed by Forbes for the 5th. consecutive time as global Top 20 in the 1-year MBA programme category and stated among other institutions like IMD, INSEAD, IE, Cambridge, Oxford, Warwick or Imperial. After the successful establishment of neuroscience, blockchain and IoT labs across its four campuses (Dubai, Mumbai, Singapore, Sydney), SPJ is currently at the point of exploring and implementing innovative approaches and designing its classroom of the future.

Due to the theoretical nature of the article, instead of stating research hypotheses, theoretical propositions will be provided in the results and findings part. Regardless of the limitations of the purposive selection of the business school serving as an example, the case study should be considered as valid, as no other young business school is ranked so highly.

Integrating New Technologies and Student Experience

In the times of digital transformation, a simple recipe for the success seems to be in permanent improvements, adjustments and modifications (Westerman *et al*., 2014). Rodri-

guez, Paredes, and Yi (2016) claim rightly that designing new customer experience seems to be a critical factor for generating competitive advantage over the market opponents. Organisational ambidexterity has become a must in the new digital ecosystems (Hernaus *et al*., 2016). However, in the academia, a new experience has become a must to provide students with the appropriate skillset that will enable them to respond to the challenges of the future. The needs of the students have been evolving and classrooms and campuses should be adaptable to these changes (Cort, Cort, & Williams, 2017).

Universities need to reinvent the approach to learning to overcome the challenge of the new business ecosystem. Numerous authors (Drucker, 1994; Tibbetts & Leeper, 2016; Joshi, 2014) rightly argue that the future is outside the traditional classroom and campus, therefore outside classes and activities should be incorporated. Nowadays, technological disruption has become the reality of the learning process, bringing benefits (Leon & Price, 2016), while e-learning and e-training effectiveness may produce results equal to conventional learning techniques (Arsovski, Stefanovic, & Arsovski, 2007). In the learning process students are not limited to the classroom any more (Chamberlin, 2015).

The concept of the classroom of the future should be capable of providing a new student experience. It seems to be a passport to the success in the new business environment, as students are already grown up in the digital world (Buzzard, Crittenden, Crittenden, & McCarty, 2011). Clem and Junco (2015) define the classroom of the future as 'an engaging social space, bringing forth vigorous conversation and debate while using technologies to help students collaborate, communicate, and build a sense of classroom community'. Coates (2016) conclude that student outcomes should include discovery, achievement, connection and opportunity.

The cornerstone of the concept combines harmoniously the ideas of three elements: technology, pedagogy and space (Lehy, 2016; Baeta & Pedro, 2017) at the same time, in addition, equipping classrooms with most recent technological solutions (Tarabasz & Selaković, 2018). Multiple authors (Baeta & Pedro, 2017; Hill & Epps, 2010; Scott-Webber, Branch, Bartholomew, & Nygaard, 2014), basing their research on the impact of the environmental space on human learning, emphasise the need of rethinking the layout and organisation of the present classrooms, which requires a flexible, modular and adaptable architecture.

Beyond any doubt, the classroom of the future is equipped with the state-of-the-art solutions, devices and technologies (Marinagi, Skourlas, & Belsis, 2013). Immersion into interaction with AI (Timms, 2016), ubiquitous computing (Marinagi *et al*., 2013) and technology exposure prepare the students for future working environment, allowing at the same time going out of the classroom while sitting physically in the classroom. The future classroom is an enabler of being connected, being involved and integrated with different Internet of Things (IoT) elements (Chang, Chen, & Huang, 2015; Sourdot, Smith, Anderson, & Whitworth, 2017).

Having in mind remarks of Wiedmer (2015) that the gap between what is taught by teachers and what the skills for the future are is widening, the question: 'how can the classroom of the future become the passport to success in the digital world?' can be raised.

According to the available literature, it seems that the development of the classroom of the future does not provide a comprehensive response to the need for new student experience without the development of teachers` skills and capacities. Bush, Carr, Hall, and Saulson (2016) pointed out rightly that the future teachers will need to

examine new paradigms in both knowledge and pedagogy. One-size-fits-all thinking will have to be redesigned when it comes to both teaching and learning. To generate a new student experience in the classroom of the future, a tailor-made approach is required (González-Gómez, Jeong, & Rodríguez, 2016).

Some innovative approaches, such as flipped classroom, have proven a positive impact on the success rate of the students involved in business education processes (Findlay-Thompson & Mombourquette, 2014; Leon & Price, 2016). However, there is no evidence related to the success rate of the usage of future technologies in the business education processes. Thus, could one expect a classroom of the future, accompanied with the appropriate changes in the pedagogical and teaching paradigm of the University teachers, to be successful in addressing the emerging student needs and to assure adequate learning outcomes for the decades ahead?

Skills for the Future Business Market

In the era of the Fourth Industrial Revolution, the paradigm of doing business has been significantly changed: business and technology are absolutely connected and intertwined (Lee *et al.*, 2018). The term 'technology-driven business' is not limited to the information-communication technologies and hi-tech companies any more: nowadays, it has a global context and is spread out across all industries, including the creation of new opportunities (Lodwich & Alvarez-Rodríguez, 2017).

Aronoff and Ward (2017) argue that no traditional discipline can prepare and create business leaders of the future. Basic business skills will be just a foundation prepare for the future leadership: responsibility, self-assurance, independence and accountability need to be developed as a core group of leadership skills. Desa, Berger, and Higgs (2016) concluded that critical thinking is among the most important skills business college graduates will need to succeed in in the future workspace and therefore it should be involved in the learning processes in business schools.

With the constant and vibrant changes both in business and in the business ecosystem, academia must develop higher order skills required to drive innovation and provide an education that ignites a student's passion for lifelong learning (Jackson, 2018). Thus, both innovation thinking and lifelong learning should be considered as the critical success factors in the future business environment. The only constant aspects of the future in the technology-driven businesses are change and learning: business of the future seems to be uncertain, complex and dynamic. Moreover, to understand the emergence of the technology-driven businesses, scholars will need more insights into how to manage the technology and how to utilise the characteristics of both high-tech and innovation contexts for the development – such as the above-mentioned complexity, dynamism, and uncertainty (Thornton, Henneberg, & Naudé, 2013).

Moreover, numerous researchers (Oosterbeek, Praag, & Ijsselstein, 2010; Cruz, Sousa, & Goncalves, 2017) emphasise the increasing importance of boosting entrepreneurship spirit among future graduates, which is perceived as one of important roles of the education system (Nowak, 2016; Rachwał, Kurek, & Boguś, 2016). They underline the need for entrepreneurship education due to its impact on skills, competencies and motivation and align it with the need for the digitisation of courses (Cruz *et al.*, 2017). Some researchers (Bedawy & Farag, 2018; Pavlova, Gourova, & Antonova, 2009) easily align the use of ICT and information technology with entrepreneurship skills. All the above mentioned clearly lead to the

conclusion that immersive experience, underlying the concept of the future will become, sooner or later, the reality of every university, business schools in particular.

Having in mind all the considerations mentioned in the literature review section, a business school should provide students with the comprehensive skillset that will consist of the following elements (Cf. Table 1 in conclusions and recommendations):

1. Basic business and entrepreneurship skills.
2. Leadership skills.
3. Teamwork skills.
4. Business communication skills.
5. Business Intelligence capacities.
6. Critical thinking.
7. Design thinking.
8. Innovation skills.
9. Lifelong learning.
10. Understanding technology.

Such a significant modification of the skillset requires immediate action and transformation of business schools. If the reality and the needs of future business are not recognized and incorporated in the learning process, traditional 'chalk and board' business colleges, putting an emphasis only on business skills applicable in the analogue world, may become obsolete. This gives a chance for agile, industry-associated business schools to take over the leadership role in the creation and development of business leaders of the future.

From Chalk and Blackboard Towards the Transformation: Available Solutions

Passive lectures and conventional teaching techniques, basing on chalk and blackboard, are equally outdated for a contemporary student as a Power Point presentation and video-sharing. Descriptive case studies will no longer thrill anybody (Aldowah, Rehman, Ghazal, & Irfan, 2017). With interactive simulation to be only the top of an iceberg, engaging, interactive, immersive, full of interaction with AI, ubiquitous computing and technology seem to be the key to success (Yeoman & McMahon-Beattie, 2018; Hod, 2017; Schneider, 2017). Therefore, the classroom of the future, based on the idea of the design thinking lab, seems to be the passport to success in the upcoming digital world. It is equipped with the state-of-the-art solutions of VR and AR, interactive detachable workstations, shareable smartboards and interactive video display walls. The conventional classroom podium transforms into 'The Professor's Cockpit' with an array of digital interfaces, where the professor can observe and manage all student interactions digitally. These include Facial Recognition, Affective (Emotional) Analyses and Personalised Learning Environment using Advanced Learning Analytics.

An exposure to the available and emerging technologies, immersion into interaction with Artificial Intelligence (AI), omnipresent computing and technology exposure prepare students for future working environment. Moreover, encompassing a variety of problems to be solved enabless simultaneously the acquisition of new skills and a smooth transition from education to desired jobs. Immersed into technology and exposed to design thinking, students will become curious self-learners.

According to research done by Microsoft (Holzapfel, 2018) among 2000 students and 200 teachers, along with inputs from 70 global thought leaders and based on the analysis of

150 previous research – the future of learning will be profoundly social, student-centric, personalised, and supported by technology. The outputs of the research process shall be based on the acquisition of soft skills, as these would be required in 30-40% of jobs in growth industries. At the same time, only 42% of employers believe new graduates will be adequately prepared in terms of social and emotional skills. Despite technology enabling a personalised approach, which is considered as important (Holzapfel, 2018; Microsoft, 2018). This leads to a noticeable increase in the academic performance: 98% of students receiving personalised instructions performed better than traditionally taught students.

Marinagi *et al*. (2013), clearly indicated that the digital learning environment is characterised by the dissemination of knowledge via the Internet. To support distance learning, software tools such as e-tutoring and self-assessment, and communication applications such as chat, forums and video calls can be used as well. Mellow (2005) defines the mobile learning (m-learning) environment as a learning environment supported by mobile devices, such as WebPads, Ultra-Mobile PCs, Tablet PCs, Personal Digital Assistants (PDAs) and smartphones. This M-learning is considered either as a subset of e-learning or an extension of e-learning (Motivalla, 2007). What is a significant factor differentiating the ideas of e-learning and m-learning is 3A aspects of mobility, rightly underlined by Herrington *et al*. (2009). With accessing via mobile, information is available from Anyplace (spacial aspect), Anytime (temporal aspect), and by (individual and collaborative aspect).

The pace of digital transformation is a factor that needs to be taken into consideration as well. Nowadays, mobile devices cannot replace interactive displays, but they complement each other (Smart Tech, 2018). The interactive touch screen (Clear Touch Interactive, 2018), a 360-degree screen (ProDisplay, 2018), a projection wall (Plannar, 2018) or transparent LED Glass (Crystal Display Systems, 2018) allow complete flexibility in the screen type, size and function choice. According to Smart Tech (2018) and Futuresource Consulting (2016), 54% of all display purchases in education are interactive displays, as this feature enables higher engagement and better results. According to Fiorella and Meyer (2015), watching instructors draw illustrations while explaining a topic results in deeper learning than giving the same oral explanation for already drawn illustrations, or remote inking. Sager (2014) pointed out that watching people writing out the content helps others remember more, not only immediately after that but also after a period of time. Moreover, the emphasis is on software presented on such a screen rather than the screen itself, as documented by Filgree Consulting (Smart Tech, 2018). It is not relevant any more if it is whole class collaborative software, student co-creation software, assessment software or gamification software.

Even though interactive screens remain the centre of the operation in the classroom of the future, interactive labs, based on emerging technologies (Sharma, 2018; Dasgupta, 2018; Guha, 2017; Jain, 2017) significantly contribute to the success of Academia. The example of successful digital transformation of SPJ is an additional proofing point. The more immersive the experience – like with Augmented Reality (AR) and Virtual Reality (VR) (Foundry, 2018), the higher the engagement and user experience.

Digital Vision at the Emerging Business School (SPJ Case Study)

With the immersion of the technology and increasing skillset requirements of the labour market, especially in the emerging countries, the paradigm of universities has been changed: universities should predict future needs and navigate their pedagogy to be better suited for tomorrow's needs (Goedegebuure & Schubert, 2017). The paradigm shift has

been recognized by university management: Nitish Jain, President of SP Jain School of Global Management, highlighted five trends to dominate the business school industry in the next few years (Jain, 2018): online and experiential learning, personalised courses, Artificial Intelligence (AI) and robotics, job post creation and urge of CSR.

While the CSR represents a shift of mindset towards responsibility and culture of giving based on philanthropy (Novak & Prischepa, 2016), the other trends are clearly technology-oriented and follow the digital disruption pathway that is constantly speeding (Loveder, 2017). Online, remote and experiential learning are used on regular basis with clear success (Faulds, 2015). Simulations or contest-oriented teaching are in use to facilitate a smoother transition from the student to professional (Ross, Mitchell, & Williams, 2017). On-demand learning and personalisation appear to be another important concept. Customisation of the learning process might be addressed through the adaptive learning systems and various tailor-made approaches and solutions: the automatic detection of learning styles is also beneficial (Feldman, Monteserin, & Amandi, 2015; Truong, 2016). Last but not least, taking the impact of AI and robotics into account is a matter of numerous studies. Ivanova (2017) and Bregman (2017) argue it is possible to rely on the AI and robotics in the extensive processes in business education.

S P Jain School of Global Management, an Australian accredited business school founded in 2004 in Dubai, is the youngest business school highly ranked in Forbes, Financial Times and the Economist, basing its presence on disruptive education, is following a simple philosophy since its establishment: if business is global, business a school shall be exactly the same (Jain, 2017). Its high global rankings among other universities are the outcome of the discontinuous and disruptive approach to the curriculum development, as well as of the global exposure of students to the emerging markets of Mumbai and Dubai, along with the developed markets of Sydney and Singapore. Technology is immersed in the disruptive approach of the school. However, the technology is not a magic bullet (Raj & Seetharaman, 2014) – the transformation process includes the change of the teachers` mindset to achieve the success (Lopukhova & Makeeva, 2018; Selković, Ljepava, & Runić Ristić, 2018).

Guided by its tagline 'leading tomorrow', SPJ is crafting market-ready global leaders, exposed consecutively to three different campuses (Dubai, Sydney, Singapore – post graduate programme or Mumbai/Singapore, Dubai and Sydney for undergraduates). Students are exposed to extensive learning, supported by experts and working professionals to provide hands-on experience, understand market needs and emerging technologies (Kumar, 2018a, 2018b; Guha, 2018). As Sharma (2018) emphasizes, the incorporation of disruptive technologies and integration with students' learning experience are factors significantly distinguishing S P Jain School of Global Management from its competitors. To meet the demands raised in the era of the Fourth Industrial Revolution, the school successfully established Neuroscience Labs and six virtual laboratories in the areas of Blockchain, Internet of Things (IoT), Machine Learning, Application Programming Interface, Cyber Security and AR/VR (Augmented Reality / Virtual Reality) (Dasgupta, 2017; Jain, 2017). Technologies such as Big Data and Machine Learning are used in the decision-making learning process. SPJ has successfully introduced Asia's first classroom-led programmes in Emerging Technologies such as Virtual Reality, Cybersecurity, FinTech and Machine Learning. Moreover, Blockchain and Neuroscience Laboratories serve as incubators, providing scientific tools to aspiring finance professionals and marketers.

Right now, the school is implementing disruptive technologies by itself, by creating the classroom of the future. An internal contest, resulting from 105 team entries from students and faculty members, brought a myriad of innovative concepts for the classroom transformation. Multiple solutions were incorporated in the proposals: interactive screens, node chairs, detachable desks, AR/VR, smartboards, 360 degrees classrooms. Originating from this crowd-sourced proposal, in which students' devices would become the centre of teacher/student interaction, the above-mentioned solutions aim to facilitate the learning process and boost student experience.

As Karl Fisch (Corrigan, 2013) rightly noted, we are currently preparing students for jobs that do not yet exist; to use technologies that have not been invented, to solve problems we do not perceive as problem yet. Therefore, deep understanding of technology as the main factor of market disruption needs to become a daily topic of a contemporary business student – a future entrepreneur and manager. The disruptive approach is at place: students willing to create new ventures, supported by faculty members mentoring them during inside classroom activities supplemented by multiple workshops and incubation labs (Sharma, 2018; Dasgupta, 2017). As the focal point of the thought process is leveraging students' skills, not only familiarising them with available/future technologies, the core part of SPJ's digital transformation is the recent launch of in-classroom tablets with the tailor-made learning software solutions to measure progress in terms of desired skills, not only academic achievements and standing. The same solution is accessible on students' mobile phones. This machine-learning-based software is on the top of organising students' activity on daily basis (submissions, classroom discussion, reaching for uploaded material) and measuring their performance on assigned tasks (based on standard grading). The software is capable of computing in real-time the individual and group percentage of desired soft-skills acquisition: business intelligence, creative thinking, effective communication and teamwork.

The digital disruption affects the support processes as well: S P Jain School of Global Management is currently testing a solution to issue student certificates through blockchain, and is designing a system which will allow students to upload and digitally sign their documents using personal ID and access their mark sheets/certificates on digital lockers (Dasgupta, 2017).

Conclusions and Recommendations

In the age of continuous disruption, the role of business education is evolving at a faster rate than ever. Business schools across the world are being challenged to keep pace with and shape the mindsets of a new generation of leaders who have very different views, values and ambitions, than those that came before them. The creation of 'future ready' graduates requires innovative mindset and agility to evolve and adapt continuously, with simultaneous focus on disruptive innovation through digital transformation. It is estimated that eighty percent of the jobs available in 2030 do not exist yet today (Tencer, 2017). In the future, the technologies of today will be replaced by the technologies, that are yet to be invented. Combined with the progress on the latest digital technologies, S P Jain School of Global Management is successfully embedding the latest technological innovations into the learning environment. Setting up its classroom of the future, SPJ took into account various factors and elements relevant for the efficient business education and skills development. The technology-based classroom, along with the necessary modifications in teaching, learning and skills development, may become a crucial element of the passport

to success and business leadership in the digital world. The table presented below lists previously listed skills along with methods of implementation by SPJ.

Table 1. List of desired skills along with implementation method

Desired skills	Literature source	SPJ implementation
Basic business and entrepreneurship	Cruz *et al*., 2016; Joshi, 2014; Oosterbeek *et al*., 2010; Rachwał *et al*., 2016	Curriculum development (core), industry visits, guest speakers
Leadership	Aronoff *et al*., 2017; Novak & Prischepa, 2016; Wiedmer, 2017	Curriculum development (core), simulations, mobile application
Teamwork	Ceschi *et al*., 2014; Rehman *et al*., 2015	Research capstone projects, SBR (Students Board Rooms), teamwork assignments, simulations, mobile application
Business communication	Ploae, 2016; Ceschi *et al*., 2014	P2E (Passport to Excellence), Public speaking, business presentations, TedX events, mobile application
Business Intelligence	Leon & Price, 2016; Lodwich & Alvarez, 2017	Curriculum development (core & electives), simulations, SBR, mobile application
Critical thinking	Desai, 2016	Curriculum development (core & electives), simulations, SBR, mobile application
Design thinking	Sager, 2014	Curriculum development (core & electives), simulations, SBR, mobile application
Innovation	Hernaus *et al*., 2016; Jackson, 2018; Ceschi *et al*., 2014	Curriculum development (core & electives), simulations, SBR, mobile application, use of labs
Lifelong learning	Corrigan, 2013; Tencer, 2017	Curriculum development (core)
Understanding technology	Aldowah *et al*. 2017; Bedawy & Farag, 2018; Bush *et al*., 2016; Buzzard, 2011; Chamberlin, 2015; Chang *et al.*, 2015, Clem & Junco, 2015; González, 2016; Mariangi e*t al*., 2014; Selaković *et al*., 2018; Schneider, 2017; Tarabasz & Selaković, 2018	Immersive use of technology, AR, VR, block chain, IoT, neuroscience labs, mobile application

Source: own study.

The conducted research is limited due to its theoretical nature, based on literature review. The selection of S P Jain School of Global Management as the case study had a purposive nature, mainly due to the fact of the positions in rankings and the disruptive approach to innovation, but it also resulted from the researchers' affiliation, therefore certain statements may be biased. Future research should not only be of a qualitative nature, with appointing more experts in the domain, but should be mainly based on the quantitative approach, measuring technology adoption and customer experience along with the long term usefulness of the selected approach (skill set acquisition).

Regardless of the Impending developments related to this study, it is obvious that upcoming business education will be impossible without future technologies. The trans-

formation will become a constant process both for businesses and, consequently, business education institutions. The business paradigm, the needs of the market and the skills desired have been changed in the Fourth Industrial Revolution and will pass through the constant process of changes; thus, constant innovation and disruption will be required from the academia to follow and meet the needs of business, both at the emerging and developed markets.

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