

# **EXPLORATIVE STUDY ON INTERNATIONALIZATION, INNOVATIVENESS AND NETWORKING IN POLISH FIRMS**

Maja Szymura-Tyc  
University of Economics in Katowice  
ul. Bogucicka 14, 40-226 Katowice, Poland  
majatyc@ue.katowice.pl

Minna Rollins  
University of West Georgia & University of Eastern Finland  
1600 Maple Street, Carrollton, GA-30118, USA  
mrollins@westga.edu

## **Abstract**

This research examines the concepts of internationalization, innovativeness and networking of the firm with distinction between outward and inward internationalization and innovativeness of Polish firms. A number of researchers and practitioners agree that a firm's relationships within its business networks are a source of competitive advantage due to a better use of the firm's distinctive resources, access to the resources of network partners, enhanced process of learning and knowledge sharing within networks. Data was collected from 274 Polish firm using direct interviews. Correlation analysis was used to analyze the relationships between networking, internationalization, and innovativeness. The results show that networking and learning by internationalization may lead to innovativeness of firms, but for the emerging market like the Polish one, they are rather conducive for process and organizational innovativeness of firms then for the product and marketing innovativeness.

**Keywords:** internationalization, innovativeness, networking, emerging markets, Poland

**work in progress paper**

Acknowledgements: The empirical research is part of a larger research project no. NN 112 303438 funded by the Polish National Science Centre (NCN) in 2011-2015

## **INTRODUCTION**

A number of researchers and practitioners agree that a firm's relationships within its business networks are a source of competitive advantage due to a better use of the firm's distinctive resources, access to the resources of network partners, enhanced process of learning and knowledge sharing within networks. Furthermore, participation in these networks, i.e. networking, is considered as a way leading to faster internationalization and higher innovativeness of firms. Although economic and management literatures indicate inter-correlations of three concepts: internationalization, innovativeness, and networking, empirical research combining the three concepts is scarce. This research explores internationalization, innovativeness, and networking in one study.

There is a reach body of knowledge concerning the relationships between internationalization and innovativeness of firms. Majority of studies undertake research focused on effects of innovation or R&D spending on exports or outward FDI which are the forms of outward internationalization. The relationships between innovation and inward forms of internationalization (e.g. imports or inward FDI) are rarely under study, however outward and inward internationalization is considered as interrelated. Also the opposite dependence path – learning by internationalization leading for increased innovativeness of firms is not enough recognized.

The foregoing studies concentrate on product or process innovations, leaving aside other types of innovations, for example marketing or organizational ones. Product and marketing innovations may be regarded as constituting an outward innovativeness, while the process and organizational innovations may be related with an inward innovativeness of a firm. The outward innovativeness is market-oriented (external) and it may be assumed that the market and marketing knowledge are of the highest importance for this type of innovativeness. The inward innovativeness is firm-orientated (internal) and the technological and managerial knowledge is of greatest necessity for this type of innovativeness.

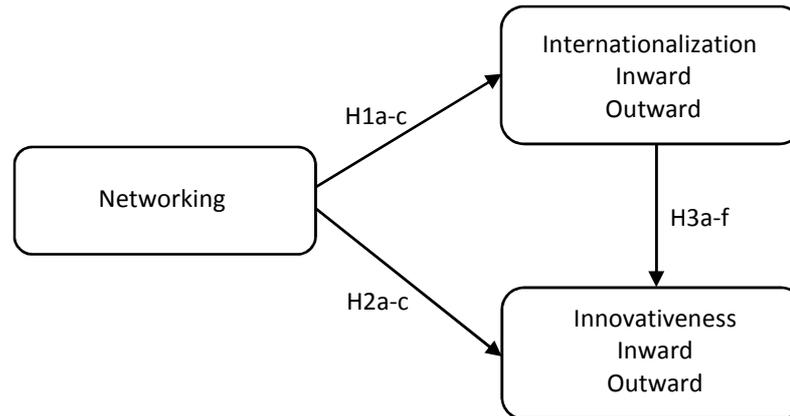
This research is focused on networking relationships with outward and inward internationalization and innovativeness of firms, as well as the relations between outward/inward internationalization and innovativeness. Data to test research model was collected from 274 Polish firms. Direct interviews were used to collect detailed data. All key concepts, networking, internationalization and innovativeness, were measured with formative indicators. Authors used new variables to measure key concepts.

Correlation analysis is used to study the relationships between the five concepts. The key findings is that learning by networking and learning by internationalization may lead to innovativeness of firms, but for the emerging market like the Polish one, they are rather conducive for process and organizational (inward) innovativeness of firms then for the product and marketing (outward) innovativeness.

The paper continues with the discussion of conceptual foundation and research model. After that methodology is described. Third, the results are presented. Contribution, limitations, and future research avenues will be discussed.

## **CONCEPTUAL FOUNDATION AND RESEARCH MODEL**

Figure 1 presents the research model. This research of the interrelationships between outward and inward internationalization and innovativeness focuses on the effects of networks and networking on the internationalization and innovativeness of firms.



**Figure 1 Research model**

### **Networking Literature**

In the theory of industrial networks (industrial networks approach – INA), developed by the IMP Group, the business network is most generally described as comprising actors, activities and resources (Håkansson and Johanson, 1992), and defined as a set of actors and some set of relationships that link them or sets of ties linking several actors. Another perspective in researching networks is offered in the economic literature by the transaction cost theory (Williamson, 1975, 1996). In the transaction costs approach (TCA) networks are perceived as an intermediate or hybrid organizational form – a governance structure or a co-ordination mechanism having both the features of the market and the hierarchy (Williamson, 1979; Thorelli, 1986; Thomson et al., 1991). The strategic management literature adopts this way of conceptualising networks, but applies a slightly narrower approach in understanding networks or inter-firm relationships, treating them a separate, third organizational form whose characteristic features make it essentially different both from markets and the hierarchy (Håkansson and Snehota, 1995).

Ebers and Grandori say that in general terms networking is about establishing and exploiting ties that link organizations, leading to the formation of inter-organizational networks (2001, p. 266). According the industrial network approach (INA) the networking is an activity aimed at initiating, maintaining and utilization of relationships with various external partners, as well as terminating them. It may be also understood as conscious, deliberate attempts of managers to affect interactions between organizations i.e. business partners of a firm (Håkansson et al., 2009, p. 196-199). The result of networking are business relationships developed between multiple partners cooperating within the industrial network. These may be both direct and indirect ties of different types e.g. economical, informational, and emotional.

Referring to the transaction costs approach (TCA) the networking may be defined as creating and making use of intermediate or hybrid organisational forms standing for the governance structures different from markets and hierarchies. The networking is responsible here for the coordination of interdependent activities carried out by many actors (organizations) having control over heterogeneous and distinctive resources (Håkansson et al., 2009, p. 205). This way of understanding the networking dominates in the strategic management literature (e.g. Jarillo, 1993) where the ability to establish and exploit network ties is perceived as conducive to achievement of the firm’s strategic goals, knowledge sharing with network partners and access to their distinctive resources and the resources created jointly within the network.

## **Networking and Internationalization: inward and outward**

The dominating model of internationalization of a firm is today the network model of internationalization (Johanson and Mattsson, 1988; Jonanson and Vahlne, 2009) that describes the process of internationalization as a process of learning through networks (Sharma and Blomstermo, 2003; Blomstermo et al., 2004; Coviello, 2006). It is assumed that knowledge exploitation enables the firm to expand on well-known paths of development only and reduces the risk of increased resource commitment in foreign market. The knowledge exploration from external sources, i.e. partners in the network, allows for experimentation to explore new possibilities with higher risk, but also higher potential profits in longer time (Forsgren, 2002; Sharma and Blomstermo, 2003; March, 1991).

Eriksson et al., (2000) state that the experiential knowledge of a firm may be a barrier for its further internationalization as it limits the ability to recognize new possibilities for international development. The network ties, rather indirect and weak with multiple partners, than direct and strong with few partners, give access to knowledge and resources of the network partners valuable for international expansion. Combined with the knowledge and resources of the firm, the network ties speed up and support the process of internationalization (Coviello and Munro, 1995; Sharma and Blomstermo, 2003; Coviello, 2006; Majkgård and Sharma, 1998; Bell, 1995; Granovetter, 1973). Forsgren (2002) and Johanson and Vahlne (2009) state that the network model of internationalization is universal as it describes how both small and medium firms (e.g. born global, new international ventures) and large corporations internationalize their activity by learning in networks.

The theory of internationalization is strongly focused on the outward forms of internationalization e.g. exporting or investments abroad (outward FDI), though already in the early 90s the Finish researchers indicated the importance of mutual and multifaceted relationships between the *inward* and *outward internationalization* (Luostarinen and Welch, 1990; Welch and Luostarinen, 1993; Luostarinen and Helman, 1993). Researchers have shown that the inward internationalization usually precedes the outward one (Welch and Luostarinen, 1988, 1993, Korhonen, 1999, Jones, 1999, 2001; Karlsen et al., 2003; Holmlund et al., 2007), majority of firms involved in international operations conducts both import and export activities (Welch and Luostarinen, 1993; Korhonen et al., 1996; Jones, 1999, 2001; Fletcher, 2001, 2008; Holmlund et al., 2007), and that the outward internationalization forms tend to mirror the former inward internationalization forms (e.g. exports follow imports, licensing-out results from earlier experience with licensing-in) (Carstairs and Welch, 1982; Welch and Luostarinen, 1993; Korhonen, 1999; Fletcher, 2001).

It is argued that the knowledge and experience gained by inward internationalization from foreign suppliers of machines, technologies and final goods or other foreign business partners supports the future outward internationalization of a firm (Korhonen, Luostarinen and Welch, 1996; Holmlund et al., 2007). The inward internationalization can become an external source of the technological and market knowledge, as well as the internationalization knowledge, necessary for future outward internationalization. The knowledge exploration by inward internationalization is especially important for small and medium firms from open, small or less advanced economies, like Finland or Australia in early 90s (Korhonen et al., 1996; Holmlund et al., 2007) and from emerging markets, like China or Poland today. The knowledge gained through inward internationalization (exploration) enables outward internationalization by this knowledge exploitation (Child and Rodrigues, 2005). We propose as follows:

*H1a: Networking is positively related with outward internationalization.*

*H1b: Networking is positively related with inward internationalization.*

*H1c: The relationship between networking and outward internationalization is stronger than with inward internationalization.*

### **Networking and Innovativeness: inward and outward**

The network model of innovation has been dominating in the theory of innovation since early 90s (Rothwell, 1992). The model describes innovation process as a process of interorganizational learning (Calatone et al., 2002) or network learning in innovation networks (Dhanaraj and Parkhe, 2006). The innovation processes span the firms' borders to integrate and share knowledge and resources of multiple partners needed for successful innovation. The network forms of coordinating innovation processes is also present in the concept of open innovation (Chesbrough, 2003), which allows for coupling internal and external sources of knowledge and ideas to create an innovation open for all participating entities. Besides that, innovation is created within networks which emerge as a result of longitudinal cooperation between business partners or in networks engineered intentionally to create and support innovations. The emerging, engineered or designed networks increase trust between their participants and reduce risk in the innovation processes. In these types of innovation network, the network partners more eagerly share knowledge, technologies and other resources which lead to successful innovation. However, on the other side, the long lasting and formalized relationships may result in inertia and resistance to change impeding the innovation processes (Van Aken and Weggeman 2000; Cowan et al., 2007; Rycroft and Kash 2004; Powell et al, 1996).

Powell et al. (1996) found that if knowledge base in an industry is complex and the sources of expertise are dispersed, the innovation may be not created in a single firm and the inter-organizational innovation cooperation is necessary. An access to the developing and evolving learning community becomes than a critical factor for competitive advantage in the industry. Participation in this learning community depends on the absorptive capacity of a firm, which describes its ability to learn on the basis of knowledge already possessed (Cohen and Levinthal, 1999). For new firms intending to enter an industry the lack of relationships in the network is a barrier not possible to overcome without the absorptive capacity developed somewhere else (Powell et al., 1996).

What is worth mentioning here is that according to European statistics firms usually combine product with process innovations, which means that an attempt to research them both should be made. Furthermore, marketing and organizational innovations are not subject to thorough research, though the research by Som et al. (2012) confirms the positive influence of marketing and organizational innovations on the performance of European firms. Gemunden, Ritter and Hydebreck (1996) show that the type of innovation (product or process innovation) and the degree of its newness depend on the choice of innovation partners. Additionally, the innovation success is related to the firm's ability to manage the network relationships i.e. the ability of networking. Ritter and Gemunden (2003) state that the network competence i.e. the ability to create innovation network is responsible for the success of implementing the product and process innovations. Tether (2002) indicates that the form of cooperation is important – formal cooperation is more conducive for technological innovations based on R&D, while non-formal cooperation is sufficient for non-technological innovation. Nieto and Santamaria (2007) prove that the cooperation with wider set of partners positively influences the newness of innovation, however the cooperation with competitors influences it negatively. Love and Roper (2001) confirm that wider and stronger external relationships are important for innovation intensity (number of innovations introduced), but not for the commercialization of

the innovations. Referring to the concepts of outward and inward innovativeness presented earlier we propose as follows:

*H2a: Networking is positively related with outward innovativeness.*

*H2b: Networking is positively related with inward innovativeness.*

*H2c: The relationship between networking and outward innovativeness is stronger than with inward innovativeness.*

### **Outward and inward internationalization and innovativeness**

In international business literature the relationships between the internationalization and innovativeness of firms have been discussed for a long time. The first issue is whether the internationalization of a firm has an influence on its innovativeness, *vice versa* or both (Bernard and Jensen, 1999; Damijan et al., 2010). The majority of studies on the relationships concentrate on the dependence between internationalization and innovativeness, assuming that firms' internationalization is a result of their innovation activity, or more generally – is determined by their innovativeness. Empirical firm-level studies conducted in numerous countries and sectors generally confirm a positive link between innovation and exporting (Basile, 2001; Roper and Love, 2002; Becker and Egger, 2013; Cassiman and Golovko 2011).

The other stream of research focuses on the opposite, presuming that the internationalization can stimulate the innovativeness thanks to offering access to new knowledge, more demanding customers and the challenges of the international competitiveness (Gupta and Govindarajan, 2000; Zahra et al., 2000). Therefore, the innovativeness of a firm may be the outcome of a firm's preceding involvement in international market by exports, and *learning by exporting* is considered as leading to the increased innovativeness of a firm (Salomon and Shaver, 2005; Salomon and Jin, 2008). The strength of the relationship depends on the degree of firm's internationalization i.e. the forms of international involvement and extent of the firm's operations beyond its national borders (Kotabe et al., 2002; Kafourous et al., 2008). The assumption is based on the Uppsala model of internationalization describing the process as development of technological and marketing knowledge from conducting internationally dispersed activities (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977).

The research on the relationship between internationalization and innovativeness of firms is focusing then on the type of innovation having the strongest impact on the internationalization of a firm. Most research in this field concentrates on product or process innovation only, leaving aside marketing and organizational innovations. Majority of these studies conclude that product innovation rather than process innovation is a more important factor increasing the firms' propensity to export (Becker and Egger, 2013; Cassiman and Golovko, 2011). The analyses of the relationship between wider set of innovations and internationalization (export) are very rare, however the few of them which have been conducted show positive influence of marketing or organizational innovations on internationalization when combined with product and process innovation (Lewandowska, Szymura-Tyc and Gołębiowski 2016; Mothe and Thi, 2010). The research results are consistent with some other studies on marketing and organizational innovations' complementarity with product and process innovations (Mothe and Thi, 2010; Lewandowska and Gołębiowski 2012) and their potential positive impact on performance and internationalization of a firm (Kotabe et al., 2002).

The least recognized issue in international business literature is the role of outward internationalization (e.g. exports, outward FDI) and inward internationalization (e.g. imports, inward FDI) in innovation processes of firms. It is because the research on the relationship

between internationalization and innovativeness is almost exclusively concentrated on the outward internationalization, as it is described above. When coming to the research on relationships between inward internationalization and innovativeness of firms only few studies may be mentioned. Liang and Parkhe (1997) notice that most researchers ignore the fact that exporting firms are also importing and very few of them include both forms of international exchange into their studies on the relationship with firm performance or innovativeness (e.g. Seker 2011). It is better when it comes to inward FDI, but the analyses bring mixed results. For example the research by Greenaway, Souse and Wakelin (2004) in UK (a highly developed economy) show that the incoming FDI increase innovativeness of local firms if connected with their local R&D spending. Garcia, Jin and Salomon (2013) prove the opposite for the inward FDI in Spain (not so highly developed as UK), finding their negative influence on the innovativeness of local firms, both at the firm and industry level. They suggest that the inward FDI do not depend on locally generated innovations, but on innovations created abroad, hindering innovativeness of local firms. However the authors also notice that the inward FDI have positive influence on the efficiency and modernity of production methods, improving the competitive position of the local firms. We propose as follows:

*H3a: Outward internationalization is positively related with outward innovativeness.*

*H3b: Outward internationalization is positively related with inward innovativeness.*

*H3c: The relationship between outward internationalization and outward innovativeness is stronger than with inward innovativeness.*

*H3d: Inward internationalization is positively related with outward innovativeness.*

*H3e: Inward internationalization is positively related with inward innovativeness*

*H3f: The relationship between inward internationalization and outward innovativeness is stronger than with inward innovativeness.*

## **METHODOLOGY**

This section discusses the methodology of measurement the degree of networking, outward and inward internationalization and innovativeness used in this research. All key constructs of the study are measured with formative indicators based on relevant conceptual assumptions and - in case of internationalization and innovativeness indices – some existing measurement practices.

### **Measuring Networking Degree**

Measurement of networking construct is described first. The concept of measuring the networking degree is based on assumptions grounded in the industrial network approach (INA), the transaction costs approach (TCA), and refers also to understanding of network and networking present in strategic management literature. The networking degree of a firm is defined in the study as an extensity of use of the cooperative relations with different network partners and application of intermediate forms of coordinating activities in the firm's value chain. Table 1 shows that indicators and weights for the networking index.

**Table 1 Formative indicators constituting the networking index**

Networking index	
Formative indicators	weight
Nature of Relations in Supply Chain	0.15
Forms of Cooperation in Business Network	0.15
Type of Linkages with Business Partners	0.15
Dominant Nature of Business Relationships	0.15
Forms of Coordination of Primary Activities	0.25
Forms of Coordination of Support Activities	0.15

According to the industrial network theory, both the direct and indirect ties might be taken into account. Because the indirect ties of a firm are not easy to research, only the direct inter-organizational relationships created by the firm with its business partners (i.e. suppliers, buyers, customers and competitors) are included in this study. While referring to transaction costs theory, the linkages between firms are described as an intermediate or hybrid organisational form or coordination mechanism for activities conducted by different actors i.e. the firm and other organisational actors participating in value adding activities coordinated by the firm.

Hence, the construction of the networking index is based on two complementary logics – the *cooperation logic* – referring to the industrial network theory, and the *coordination logic* – based on transaction costs theory and strategic management approach. The first logic assumes that the degree of networking is higher with more extensive use of inter-organizational relations ranging from single transactions to capital cooperation. The cooperation should not be loose and occasional but tend towards permanent and contractual or capital one. The linkages between partners in a network should be not only economic, but also informational or structural ones. The dominant nature of business relationships should be not competition only, but also cooperation with multiple partners, competitors among them. The second logic – the coordination one – assumes that the degree of networking increases when coordination forms of the primary and supporting activities in the firm's value chain are rather intermediate, network ones, than market or hierarchy. The above assumptions are reflected by different weights given to the various types and forms of relations and linkages between the firm and its network partners and to the frequency of use of particular forms.

### **Measuring Outward and Inward Internationalization Degree**

This research studies both outward and inward internationalization. The *outward internationalization* embraces export and outward foreign investments, whereas *inward internationalization* includes import and inward foreign investments. In both types of internationalization contractual forms of internationalization (licensing-out/in, franchising-out/in etc.) are included as the fastest developing network forms of conducting international operations. Majority of the firms are assumed to have both types of internationalization. Table 2 shows the formative indicators and weights for the measure.

**Table 2 Formative indicators constituting the outward and inward internationalization indices**

Outward internationalization index		Inward Internationalisation index	
Formative indicators	weight	Formative indicators	weight
Outward Internationalisation Forms and Markets	0.40	Inward Internationalisation Forms and Markets	0.40
Export Share in Sales and Markets	0.40	Import Share in Sales and Markets	0.40
Firm's International Experience and Markets	0.20	Firm's International Experience and Markets	0.20

Measure for the degree of internationalization of firm bases on the experience of UNCTAD in use of composite indices of the internationalization degree of transnational corporations (e.g. the transnationality index – TNI and the geographical spread index - GSI) (Ietto-Gillies, 1998; Ietto-Gillies and London, 2009). It refers also to the degree of internationalization scale (DOI) constructed by Sullivan (1994), and combining variables of different nature e.g. the structural, performance and attitudinal/behavioral to measure the degree of a firm's internationalization (Sullivan, 1994; Dörrenbächer, 2000).

In this research, measuring the degree of inward and outward internationalization was adjusted to the context of Polish firms, which represent low degree of internationalization, i.e. low intensity of international activity, rare use of capital forms of internationalization, narrow scope and spread of foreign markets. The scope and spread of internationalization is reflected by the number of foreign markets and their physical and psychic distance from the Polish market.

### **Measuring Outward and Inward Innovativeness Degree**

Two types of firms' innovativeness are considered: the *outward innovativeness*, including variables related to product and marketing innovations, and the *inward innovativeness*, including process and organizational innovations variables. It is expected that outward and inward innovativeness coexist in a firm and they are correlated to some extent.

This study employs the innovativeness measures developed and used by OECD and the European Commission. For example, the Summary Innovation Index (SII) comprises seven factors in three areas: enablers, firm activities and outputs, considered to be conducive for the overall innovativeness of the European economies (IUS, 2013). The idea of using complex measures of innovativeness of firms follows also the findings of many researchers, calling for more holistic approach to innovativeness of firms, and proving the need to use wider sets of innovation variables. It is especially important in more comprehensive studies on relationships between innovativeness and performance of firms differing by size and industry (e.g. Hollenstein, 1996; Hagedoorn and Cloudt, 2003; Kleinknecht et.al., 2002; Adams et al., 2006). The formative indicators with their weights used for construction of the outward and inward innovativeness indices are presented in Table 3.

**Table 3 Formative indicators constituting the outward and inward innovativeness indices**

Outward Innovativeness index		Inward Innovativeness index	
Formative indicators	weight	Formative indicators	weight
Degree of Newness of Product and Marketing Innovations	0.35	Degree of Newness of Process and Organizational Innovations	0.35
Number of Product and Marketing Innovations against Competitors	0.20	Number of Process and Organizational Innovations against Competitors	0.20
Share of Product Innovation Expenditure in Total Expenditure	0.25	Share of Process Innovation Expenditure in Total Expenditure	0.25
R&D Product Innovation Expenditure against Competitors	0.20	R&D Process Innovation Expenditure against Competitors	0.20

Innovativeness degree indices include the innovation newness (new to a firm, new to a domestic market or new to an international market and the number of implemented outward (product and marketing) and inward (process and organizational) innovations. At the enablers side of innovation process the share of innovation expenditures in the total expenditure is included, as well as the R&D spending (by innovation type: product - outward, process - inward). Due to the potential impact of the industry specificity on the number of innovations implemented and the R&D innovation spending, the individual variables are referred to competitors.

### **Data collection and sampling**

The empirical data were collected by direct interviews in 300 Polish firms. A structured questionnaire was used. Purposive sampling was applied to select firms involved in international markets both by outward internationalisation forms (e.g. exports) and by inward internationalisation forms (e.g. imports), and (irrespectively of or simultaneously with their international involvement) demonstrating an innovative activity.

274 companies from different industries, sectors, size and capital ownership were selected for the further analysis. The sample embraces firms from 10 different divisions by NACE classification of economic activity, both from industry (54.4%) and services (45.6%) sector. Small firms constitute 36.9% of the sample, medium ones 41.2%, and large 21.9%. 96% are private companies, and the public ownership is represented by 2.2% of firms. Firms with solely Polish capital constitute 67.5%, 12.8% represent foreign capital exclusively, and the rest i.e. 19.6%, have mixed capital.

## **RESULTS**

Table 4 summarizes descriptive statistics of the key constructs of the research. The final values of the indices have been normalised to take the value from 0 to 1. The normalisation of the value of the indices allowed for comparisons between them within the intended value range. The normalised values of the indices have been regarded as low if within the range 0.0 - 0.19, moderate: 0.2 - 0.39, high: 0.4-0.59, and very high: above 0.6.

**Table 4 Descriptive statistics for internationalization, innovativeness and networking indices (n=274)**

	Mean	Median	Range	Standard deviation
<b>Networking</b>	0.443	0.475	0.812	0.185
<b>Outward Internationalization</b>	0.125	0.109	0.713	0.125
<b>Inward Internationalization</b>	0.123	0.105	0.663	0.118
<b>Outward Innovativeness</b>	0.319	0.326	0.910	0.154
<b>Inward Innovativeness</b>	0.281	0.295	0.800	0.148

Results show that the mean degree of networking is relatively high within large range and the distribution of its value is close to normal. The mean degree of both outward and inward internationalization is very low (slightly higher for outward internationalization). Vast majority of firms presents very low degree of both types of internationalization and strong right asymmetry in their value distribution is observed. The means of the indices of the outward and inward innovativeness indicate moderate innovativeness of the surveyed firms within very large range (larger for outward innovativeness) and almost normal distribution.

To test hypotheses Pearson correlation coefficient  $r$  was used showing statistically significant, weak to moderate positive linear correlations between majority of the networking, internationalization and innovativeness indices, as presented in Table 5.

**Table 5 Correlations of networking, internationalization and innovativeness indices (N=274)**

	Networking	Outward Internationalization	Inward Internationalization	Outward Innovativeness	Inward Innovativeness
<b>Networking</b>	1.				
<b>Outward Internationalization</b>	.282***	1.			
<b>Inward Internationalization</b>	.113	.566***	1.		
<b>Outward Innovativeness</b>	.178***	.217***	.106	1.	
<b>Inward Innovativeness</b>	.311***	.312***	.182***	.590***	1.

\*\*\*  $p < 0.001$

First, it is worth to mention, that the correlation analysis confirms the assumptions underlying the study that the inward and outward internationalization are related with each other, as well as the inward and outward innovativeness. The strength of the correlation is relatively high ( $r$  close to 0.6), which confirms the need to include the outward and inward forms of these phenomena into the analysis.

Second, as the effect of networking on internationalization and innovativeness is concerned, we predicted (H1a) that networking is positively related to outward internationalization and the hypothesis gain some support. The hypothesis H1b, stating that networking is positively related to inward internationalization, is not supported because of statistically insignificant result. H2a and H2b predicted that networking is positively related to innovativeness, and we found support for both hypotheses. In addition, networking and inward innovativeness had a

stronger correlation than networking and outward innovativeness, which means that the hypothesis H2c should be rejected.

Third, the correlations analysis of the relationships between the outward/inward internationalization and outward/inward innovativeness supports the hypotheses H3a, H3b and H3e showing positive relationship between outward internationalization and both outward and inward innovativeness, and between inward internationalization and inward innovativeness. The hypothesis H3d stating that the inward internationalization is also positively related with outward innovativeness was not supported.

Furthermore, the correlations analysis of the relative strength of the relationships between the outward/inward internationalization and outward/inward innovativeness suggests rejection of the hypothesis H3c, because the outward internationalization is stronger related with inward innovativeness than with outward innovativeness. The hypothesis H3f is not supported because the correlation analysis with outward innovativeness did not bring statistically significant result.

## CONCLUSIONS

The preliminary results of this research demonstrate the need for examining the effects between firm's networking and outward/inward internationalization and outward/inward innovativeness. The context of the study, an emerging market, Poland, brings new insights to networking literature.

The networking showed positive relationship with internationalization and innovativeness indices, with the exception of inward internationalization. This finding may be interpreted that for importing and other inward forms of internationalization network ties are not so important. This finding may be specific for firms in emerging markets only or more universal.

The networking supports both types of innovativeness of the firms under study, but astonishingly the strength of the relationship is higher for inward innovativeness. This result suggests the firms create network ties and look for network forms of coordinating value chain activities rather to introduce process and organizational innovations, than product and marketing ones. The inward innovativeness (i.e. the process and organizational innovations) are considered to be related with cost-based advantage, while the outward innovativeness (i.e. product and marketing innovations) may be linked with the differentiation-based advantage. Does it mean that the firms engage in networking to reduce the costs, and look for the differentiation alone? This finding could be specific for an emerging market where price competition is still dominating, and differentiation is rather an imitation of product innovations created somewhere else, and does not need that much new knowledge from external sources.

In addition, outward internationalization showed stronger relationship with inward innovativeness than with outward innovativeness. The mechanism behind this might be that Polish firms engage in the cost-based competition in the international market. The process and organizational innovations help to increase efficiency and modernize production to achieve the expected level of quality. They are the basis of the cost and quality advantage of Polish firms on foreign, more advanced markets. This may indicate that firms from emerging markets, Poland among them, have not achieved yet the potential to build their advantage on product differentiation. Another possible explanation for these results might be that the degree of internationalization of the firms under study was very low and the critical point where internationalization translates into outward (product and marketing) innovation has not been reached yet. The same explanation may stay behind the positive relationship between the

inward internationalization and inward innovativeness. The findings may mean that importing, inward foreign investments and cooperation with firms at the home market are also used to modernize production and reduce cost, acting in the same direction as the outward internationalization.

In conclusion, the findings of the study, based on holistic approach to internationalization and innovativeness of firms in transition economy and emerging market, show the significance of both types of internationalization in the inward innovativeness (process and organizational). The internationalization degree is still too low to enhance outward (product and marketing) innovativeness of firms from these markets. The research results suggest that at this stage of their development the networking as a driver of internationalization and innovativeness supports rather the inward than outward forms of innovativeness. The network ties are not used for knowledge exploration which could enable expansion to new markets based on differentiation. The reasons for the situation may be multiple, but the most probable ones are the low knowledge absorptive capacity of the Polish firms, resulting from limited R&D spending and still very low degree of their internationalization. The interplay between internationalization and innovativeness creates so far a vicious circle, which may become a virtuous one thank to the networking with foreign firms from more advanced economies in both home and foreign market.

### **Limitations and Future Research**

This research is one of the first ones that explore relationships between networking, innovativeness, and internationalization in one study. The current stage of the study is based on correlation analysis which does not bring strong support for the research hypotheses. The heterogeneity of the sample i.e. companies of different size, from a number industries was challenging. As it has been proved in another study based on the data the innovativeness shows statistically significant differences in case of sector (industry/services) and size, while internationalization and networking for the sector (Szymura-Tyc, 2015). Hence, more analysis should be conducted and possibly secondary data might be also collected.

Further research in the area could examine the networking effect through the two mentioned earlier logics: the cooperation logic and the coordination logic. This could bring an insight into the role of different facets of networking in the relationships with internationalization and innovativeness of firms in Poland as an emerging market.

Studying the learning by networking and learning by internationalization by the key concepts of this study should be also explored in other emerging markets to further understand how the development of the market affects firms' internationalization and innovativeness.

### **REFERENCES**

- Adams, R., Bessant, J., & Phelps, R. (2006). Innovation management measurement: A review. *International Journal of Management Reviews*, 8(1), 21-47.
- Basile, R. (2001). Export behaviour of Italian manufacturing firms over the nineties: the role of innovation. *Research policy*, 30(8), 1185-1201.
- Becker, S. O., & Egger, P. H. (2013). Endogenous product versus process innovation and a firm's propensity to export. *Empirical Economics*, 44(1), 329-354.

- Bell, J. (1995). The internationalization of small computer software firms: A further challenge to “stage” theories. *European journal of marketing*, 29(8), 60-75.
- Bernard, A. B., & Jensen, J. B. (1999). Exceptional exporter performance: cause, effect, or both?. *Journal of international economics*, 47(1), 1-25.
- Blomstermo, A., Eriksson, K., Lindstrand, A., & Sharma, D. D. (2004). The perceived usefulness of network experiential knowledge in the internationalizing firm. *Journal of International Management*, 10(3), 355-373.
- Calantone, R. J., Cavusgil, S. T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. *Industrial marketing management*, 31(6), 515-524.
- Carstairs, R. T., & Welch, L. S. (1982). Licensing and the internationalization of smaller companies: Some Australian evidence. *Management International Review*, 33-44.
- Cassiman, B., & Golovko, E. (2011). Innovation and internationalization through exports. *Journal of International Business Studies*, 42(1), 56-75.
- Chesbrough H. (2003), *Open Innovation: The New Imperative for Creating and Profiting from Technology*, Harvard Business School Press, Boston Mass.
- Child, J., & Rodrigues, S. B. (2005). The internationalization of Chinese firms: A case for theoretical extension?[1]. *Management and organization review*, 1(3), 381-410.
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: a new perspective on learning and innovation. *Administrative science quarterly*, 128-152.
- Coviello, N. E. (2006). The network dynamics of international new ventures. *Journal of International Business Studies*, 37(5), 713-731.
- Coviello, N. E., & Munro, H. J. (1995). Growing the entrepreneurial firm: networking for international market development. *European journal of marketing*, 29(7), 49-61.
- Cowan, R., Jonard, N., & Zimmermann, J. B. (2007). Bilateral collaboration and the emergence of innovation networks. *Management Science*, 53(7), 1051-1067.
- Damijan, J. P., Kostevc, Č., & Polanec, S. (2010). From innovation to exporting or vice versa?. *The World Economy*, 33(3), 374-398.
- Dhanaraj, C., & Parkhe, A. (2006). Orchestrating innovation networks. *Academy of management review*, 31(3), 659-669.
- Dörrenbächer Ch. (2000): *Measuring corporate internationalisation: a review of measurement concepts and their use*, Discussion paper. Wissenschaftszentrum Berlin für Sozialforschung, Berlin.
- Ebers M. Grandori A., (2001) The forms, Costs, and Developmnet Dynamics of Inter-Organizational Networking in: *The Formation of Inter-Organizational Networks*. Ebers M. (ed.) Oxford University Press, New York, s. 265-286.
- Eriksson, K., Majkgård, A., & Sharma, D. D. (2000). Path dependence and knowledge development in the internationalization process. *MIR: Management International Review*, 307-328.
- Fletcher, R. (2001). A holistic approach to internationalisation. *International business review*, 10(1), 25-49.
- Fletcher, R. (2008). The internationalisation from a network perspective: A longitudinal study. *Industrial Marketing Management*, 37(8), 953-964.

- Forsgren, M. (2002). The concept of learning in the Uppsala internationalization process model: a critical review. *International business review*, 11(3), 257-277.
- García, F., Jin, B., & Salomon, R. (2013). Does inward foreign direct investment improve the innovative performance of local firms?. *Research Policy*, 42(1), 231-244.
- Gemünden, H. G., Ritter, T., & Heydebreck, P. (1996). Network configuration and innovation success: An empirical analysis in German high-tech industries. *International Journal of Research in Marketing*, 13(5), 449-462.
- Granovetter, M. S. (1973). The strength of weak ties. *American journal of sociology*, 1360-1380.
- Greenaway, D., Sousa, N., & Wakelin, K. (2004). Do domestic firms learn to export from multinationals?. *European Journal of Political Economy*, 20(4), 1027-1043.
- Gupta, A. K., & Govindarajan, V. (2000). Knowledge flows within multinational corporations. *Strategic management journal*, 21(4), 473-496.
- Hagedoorn, J., & Cloudt, M. (2003). Measuring innovative performance: is there an advantage in using multiple indicators? *Research policy*, 32(8), 1365-1379.
- Håkansson H., Snehota I., (1995), Analyzing Business Relationships [w:] Snehota, I., & Håkansson, H. (Eds.). (1995). *Developing relationships in business networks*. Routledge London
- Håkansson, H. and Johanson, J.(1992) A Model of Industrial Networks [in:] Axelsson, B. and Easton, G. (Eds.), *Industrial Networks: a New View of Reality*, pp. 28-34. Routledge, London.
- Håkansson, H., Ford, D., Gadde, L. E., Snehota, I., & Waluszewski, A. (2009). *Business in networks*. John Wiley & Sons,.
- Hollenstein, H. (1996). A composite indicator of a firm's innovativeness. An empirical analysis based on survey data for Swiss manufacturing. *Research Policy*, 25(4), 633-645.
- Holmlund, M., Kock, S., & Vanyushyn, V. (2007). Small and medium-sized enterprises' internationalization and the influence of importing on exporting. *International Small Business Journal*, 25(5), 459-477.
- Ietto-Gillies, G. (1998). Different conceptual frameworks for the assessment of the degree of internationalization: an empirical analysis of various indices for the top 100 transnational corporations. *Transnational corporations*, 7, 17-40.
- Ietto-Gillies, G., & London, S. E. (2009). Conceptual issues behind the assessment of the degree of internationalization. *Transnational Corporations*, 18(3), 59-83.
- IUS (2013) *Innovation Union Scoreboard 2013*, European Commission
- Jarillo J. C. (1993). *Strategic networks. Creating the borderless organization*. Oxford Butterworth-Heinemann.
- Johanson, J., & Mattsson, L. G. (1988). Internationalisation in Industrial Systems – a Network Approach in: Hood, N., Vahlne, J.E. (eds), *Strategies in Global Competition*, Croom Helm, New York.
- Johanson, J., & Vahlne, J. E. (1977). The internationalization process of the firm-a model of knowledge development and increasing foreign market commitments. *Journal of international business studies*, 23-32.

- Johanson, J., & Vahlne, J. E. (2009). The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of international business studies*, 40(9), 1411-1431.
- Johanson, J., & Wiedersheim-Paul, F. (1975). The internationalization of the firm—four swedish cases 1. *Journal of management studies*, 12(3), 305-323.
- Jones, M. V. (1999). The internationalization of small high-technology firms. *Journal of International Marketing*, 15-41.
- Jones, M. V. (2001). First steps in internationalisation: Concepts and evidence from a sample of small high-technology firms. *Journal of International Management*, 7(3), 191-210.
- Kafouros, M. I., Buckley, P. J., Sharp, J. A., & Wang, C. (2008). The role of internationalization in explaining innovation performance. *Technovation*, 28(1), 63-74.
- Karlsen, T., Silseth, P. R., Benito, G. R., & Welch, L. S. (2003). Knowledge, internationalization of the firm, and inward-outward connections. *Industrial marketing management*, 32(5), 385-396.
- Kleinknecht, A., Van Montfort, K., & Brouwer, E. (2002). The non-trivial choice between innovation indicators. *Economics of Innovation and new technology*, 11(2), 109-121.
- Korhonen, H. (1999). *Inward-outward internationalization of small and medium enterprises*. Helsinki School of Economics and Business Administration.
- Korhonen, H., Luostarinen, R., & Welch, L. (1996). Internationalization of SMEs: Inward-outward patterns and government policy. *MIR: Management International Review*, 315-329.
- Kotabe, M., Srinivasan, S. S., & Aulakh, P. S. (2002). Multinationality and firm performance: The moderating role of R&D and marketing capabilities. *Journal of international business studies*, 79-97.
- Lewandowska, M., Szymura-Tyc, M., Gołębiowski, T. (2016), Innovation complementarity, cooperation partner, and new product export: Evidence from Poland. *Journal of Business Research* 69(9), 3673-3681.
- Lewandowska, M.S., Gołębiowski, T. (2012), Complementarity between process- and organizational innovation of Polish exporters-research outcomes. *Gospodarka Narodowa*, (5-6), 29 -55.
- Liang, N., & Parkhe, A. (1997). Importer behavior: The neglected counterpart of international exchange. *Journal of International Business Studies*, 495-530.
- Love, J. H., & Roper, S. (2001). Location and network effects on innovation success: evidence for UK, German and Irish manufacturing plants. *Research policy*, 30(4), 643-661.
- Luostarinen, P., & Hellman, H. (1993). Internationalization process and strategies of Finnish family enterprises, [w:] Vertanen M.(red.). In *Proceedings of the Conference on the Development, Ministry of Trade and Industry Studies and Reports, Helsinki* (Vol. 59, 2-37).
- Luostarinen, R., & Welch, L. (1990). *International business operations*. Helsinki: Kyriiri Oy
- Majkgård, A., & Sharma, D. D. (1998). Client-following and market-seeking strategies in the internationalization of service firms. *Journal of Business-to-Business Marketing*, 4(3), 1-41.
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization science*, 2(1), 71-87.

- Mothe, C., & Uyen Nguyen Thi, T. (2010). The link between non-technological innovations and technological innovation. *European Journal of Innovation Management*, 13(3), 313-332.
- Nieto, M. J., & Santamaría, L. (2007). The importance of diverse collaborative networks for the novelty of product innovation. *Technovation*, 27(6), 367-377.
- Powell, W. W., Koput, K. W., & Smith-Doerr, L. (1996). Interorganizational collaboration and the locus of innovation: Networks of learning in biotechnology. *Administrative science quarterly*, 116-145.
- Ritter, T., & Gemünden, H. G. (2003). Network competence: Its impact on innovation success and its antecedents. *Journal of Business Research*, 56(9), 745-755.
- Roper, S., & Love, J. H. (2002). Innovation and export performance: evidence from the UK and German manufacturing plants. *Research policy*, 31(7), 1087-1102.
- Rothwell, R. (1992). Successful industrial innovation: critical factors for the 1990s. *R&D Management*, 22(3), 221-240.
- Rycroft, R. W., & Kash, D. E. (2004). Self-organizing innovation networks: implications for globalization. *Technovation*, 24(3), 187-197.
- Salomon, R. M., & Shaver, J. M. (2005). Learning by exporting: new insights from examining firm innovation. *Journal of Economics & Management Strategy*, 14(2), 431-460.
- Salomon, R.M., & Jin, B. (2008). Does knowledge spill to leaders or laggards? Exploring industry heterogeneity in learning by exporting. *Journal of International Business Studies*, 39(1), 132-150.
- Şeker, M. (2012). Importing, exporting, and innovation in developing countries. *Review of International Economics*, 20(2), 299-314.
- Sharma, D. D., & Blomstermo, A. (2003). The internationalization process of born globals: a network view. *International business review*, 12(6), 739-753.
- Som O., Diekmann J., Solberg E., Schricke E., Schubert T., Jung-Erceg P., Stehnen T. (2012), Organisational and marketing innovation-promises and pitfalls. *PRO INNO Europe: INNO-Grips II report*, Brussels: European Commission, DG Enterprise and Industry.
- Sullivan, D. (1994). Measuring the degree of internationalization of a firm. *Journal of International Business Studies*, 325-342.
- Szymura-Tyc M. (2015), *Internacjonalizacja, innowacyjność i usieciowienie przedsiębiorstw. Podejście holistyczne*, Warszawa, Difin.
- Thompson G., Frances J., Levacic R. & Mitchell J. (eds) (1991), *Markets, Hierarchies and Networks: the Co-ordination of Social Life* London, Sage
- Thorelli, H. B. (1986). Networks: Between Markets and. *Strategic management journal*, 7(1), 37-51.
- Tether, B. S. (2002). Who co-operates for innovation, and why: an empirical analysis. *Research policy*, 31(6), 947-967.
- Van Aken, J. E., & Weggeman, M. P. (2000). Managing learning in informal innovation networks: overcoming the Daphne-dilemma. *R&D Management*, 30(2), 139-150.
- Welch, L. S., & Luostarinen, R. (1988). Internationalization: evolution of a concept. *The Internationalization of the firm*, 14, 83-98.

- Welch, L. S., & Luostarinen, R. K. (1993). Inward-outward connections in internationalization. *Journal of International Marketing*, 44-56.
- Williamson, O. E. (1975). *Markets and hierarchies*. New York, Free Press.
- Williamson, O. E. (1996). *The mechanisms of governance*. Oxford University Press.
- Zahra, S. A., Ireland, R. D., & Hitt, M. A. (2000). International expansion by new venture firms: International diversity, mode of market entry, technological learning, and performance. *Academy of Management journal*, 43(5), 925-950.