Export of Hungarian SMEs – testing network internationalisation*

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Abstract

Due to the global economic crisis of 2008, small and medium-sized enterprises were forced to increase their international (export) activities. As Hungary is one of the most integrated countries in global production networks, we use its example to explore what factors promote or hinder the Hungarian SMEs' internationalisation process focusing on the effects of network internationalisation. Our questionnaire survey provided a sample of 148 exporting SMEs. Our first hypothesis is that there are differences between network-participants and non-supplier firms in terms of export promoting and hindering factors. The results show such differences, but these are not statistically significant. Our second hypothesis is that stronger and looser network participant SMEs differ, which we illustrate by two case studies, pointing to the importance of management strategy.

Keywords: SMEs, internationalisation, export, Hungary, networks
JEL codes: F14, L14

Introduction

During the past decades, production has become strongly fragmented due to the liberalization of international trade and the free movement of capital. As a result, the production of a finished product takes place in many countries creating global production networks and value chains (WTO 2011; Elms/Low 2013). Global value chains (GVC) are currently key phenomena in the world economy. They shape not only trade flows, but also technological development and organization of production. Large and small companies from developed and developing countries are members of GVCs (OECD/WTO/World Bank Group 2014; Pomfret/Sourdin 2016; Rodrik 2018). Participating in a GVC provides several advantages for firms: entering international markets, access to new technologies, etc. Interdependence among actors of such networks is growing (OECD et al. 2014) and in most cases, small and medium-sized enterprises (SMEs) are integrated into GVCs as suppliers of large (multinational) companies. This typically characterizes Central-European SMEs. Hungary is one of the most integrated countries in the mentioned global production chains, since the country hosts several large multinational affiliates in the manufacturing and service sectors. Therefore, the

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theories of internationalisation in networks can especially fit the experiences of Hungarian SMEs.

The international crisis of 2008 gave an impetus for Hungarian SMEs to increase their exports and internationalize their activity. However, the success of entering international markets depends on several external and internal factors that can promote exports or act as a barrier. Thus, the aim of the current research is to explore what factors promote or hinder the Hungarian SMEs' internationalisation. We locate this process in the context of network internationalisation. In order to get a clear picture of these factors we conducted a questionnaire survey among exporting Hungarian SMEs and analysed whether these factors are different for suppliers in networks.

In the first part of the article we give a brief overview of network internationalisation theories, and then we describe our Hungarian questionnaire survey, introducing the characteristics of our sample. We analyse export promoting and hindering factors and we test the hypothesis that the significance of these factors is different for those who are suppliers to multinationals, participating in an international network. Finally, we present two case studies, one company is strongly integrated in a German network while the other is independent. We show that, as a consequence, managerial strategies differ.

Internationalisation theories and export of SMEs – the role of networks

According to Lin (2010), theories on internationalisation can be grouped under three main approaches: stages, international entrepreneurship and network. Abundant literature discusses these approaches and their sub-categories (for a broad summary, see e. g. Laghzaoui 2011). The well-known stages model is the so-called Uppsala model which was based on the internationalisation of large Swedish multinationals (Johanson/Wiedersheim/Paul 1975; Johanson/Vahlne 1977). The model describes internationalisation as a process of gradual learning in four sequential steps from irregular export to having a subsidiary abroad. The Uppsala model was a simplified model, so in the following decades it received criticism concerning, for example, its relevance for SMEs. Other drawbacks of the model are that it does not take into account that the internationalisation process can also stop or can be reversed, it can start with steps other than export (e. g. import, license, etc.), or firms can jump stages. The model also neglects the effects of networks and service sector specialities.

As a result of these criticisms, new branches of internationalisation theory emerged. The entrepreneurship approach, for example, contradicts the sequential stages of internationalisation, arguing for the existence of international new ventures (Cavusgil 1980; Rennie 1993; Oviatt/McDougall 1994). These companies can export or invest abroad right from the start. They are usually innovative, knowledge- and high-tech intensive, and utilise low info-communication and transport costs (Rasmussen/Madsen 2002). Moreover, some authors (e. g. Welch/Welch 2009; Vissak 2010; Javalgi/Deligounul/Dixit/Cavusgil 2011; Swoboda/Olejnik/Morchett 2011) call attention to the importance of non-linear internationalisation. Firms can exit foreign market(s) or reduce their exports significantly, but later they can re-enter these markets. This re-internationalisation can take place several times, it can be easier for smaller firms, and largely depends on managerial attitude.

We also have to note that the internationalisation of SMEs has specific features compared to that of large companies: SMEs have less capital, less access to information, but they are more dynamic and flexible than large firms (Antalóczy/Sass 2011, Kubícková/Votoupalová/Toulová 2014). Kubícková et al. (2014) add other important considerations why SMEs are different from large enterprises and how these aspects also determine their internationalisation opportunities. The authors mention entrepreneurship as a special characteristic: SMEs are often managed by only one, or a very small group of people. Furthermore, owners, managers of SMEs are quite often family members with limited financial resources and a lower degree of mobility. At family firms, decisions are mainly based on intuition and personal relationships rather than rational strategic planning as is the case with managers of large enterprises. However, SMEs can focus on specific, niche seeking strategies. The authors also mention particularities such as the simple and flat organizational structure and a low level of division of labour within an SME.

Several studies with different methods explain how SMEs can internationalize (Lu/Beamish 2004; Hutchinson et al. 2005; Doole et al. 2006; Ruzzier et al. 2006), and significant attention is given to the importance of relations developed by operating in networks (Laghzaoui 2011). Networking can be defined as the establishment of relations that give SMEs access to complementary resources, skills, capabilities, and knowledge that are not available internally (Pittaway et al. 2004). The network approach emphasizes that firm networks may be fundamental for SMEs to be able to overcome the drawbacks of their limited resources. Johanson/Vahlne (1990, 2009) indicate the importance of enterprise networks during internationalisation. The revised Uppsala model of Johanson and Vahlne (2009) theorizes that "insidership", ie. inclusion in networks, promotes internationalisation, resulting in greater international sales, more employees, profits versus the competitors. In fact, SMEs can use their networks, mainly contacts with customers to outcompete rivals (Odlin/Benson-Rea 2017). Other studies (like Johanson/Mattson 1988; Coviello/Munro 1997) also point out that the establishment of financial, technological and commercial relations with other network partners enables firms to extend their activities internationally.

SMEs rely on network relations to select markets and these relations can facilitate or accelerate their internationalisation process. Personal networks can simplify the internationalisation process of SMEs (Buzavaité/Korsakiené 2017). Family businesses in transition countries tend to focus on social networks and connections to overcome the lack of institutions. These social connections may help them gain access to new international markets (Ratten et al. 2017).

SMEs can enter a foreign market in an active or passive way within a network. In the case of active networking, the initiative is taken by the seller, whereas in passive networking it comes from the buyer's direction (Johanson/Mattsson 1988). In the past two decades, the growing importance of global production chains made network internationalisation of SMEs especially relevant. A strand of the literature focusing on these chains has emphasized the importance of international fragmentation of production and specialization. An active involvement in supply chains is likely to enhance efficiency, by allowing firms to specialize in functions better aligned with their capacities (Agostino et al. 2011). Value (supply) chains can enhance SMEs engagement in international markets, can increase the probability of exporting through opening new niches and allowing firms to overcome information costs, incompleteness of contracts and other structural barriers to internationalisation (Giovanetti et al. 2014).

However, a network may also pose limitations. For instance, a member company can be restricted in its decisions although it can influence the network (Hakansson/Ford 2002). Based on companies' experience, Galkina/Chetty (2015) show that the process of networking is not strategically driven by a predefined plan. It is often a conscious choice not to influence the network but allow other partners to bring unexpected opportunities and co-create new combinations. Several entrepreneurs are open to unexpected relations to exploit new opportunities; thus network internationalisation can be a non-focused, natural and intuitive process.

An SME may use its connections in networks to complement its lack of information on the target market (Knight 2000). It is a common interest to develop and maintain relationships with each other in a network and to attain relevant business information (Johanson/Vahlne 2009). Meyer/Skak (2002) consider this as a "knowledge-pool". Firms placed centrally in a network receive more, better and earlier information and knowledge than their competitors. Networks may also produce unexpected random information for firms, influencing their internationalisation (Sharma/Blomstermo 2003). Regarding born globals and late internationalizing SMEs, the results of Hughes et al. (2017) reveal that networks permit successful competition in international markets without having accumulated knowledge about these markets themselves. Network size is also very important, a larger network provides greater amount of resources and knowledge for member firms.

Networks that consist of companies are called inter-firm networks and these can also be grouped (Sprenger 2001). Strategic networks for example are grouped around a core business usually with the leadership of one manufacturing multinational that determines the strategy. In SME networks, partners are equal, and participants specialise in tasks or competences. Of course, there are hybrid networks too, combinations of large firms and SMEs.

Network ties can be grouped into formal, informal and intermediary ties (Kontinen/Ojala 2011). A formal tie is an existing tie between individual business partners where products or services are exchanged. Informal ties are related to social relationships, for instance with friends and family members (Coviello 2006). However, the boundary between the formal and informal ties is not always clear, informal ties may become formal and vice versa. In the intermediary tie, there are no existing business transactions between the seller and the buyer (Ojala 2009). However, there is a third party (such as an export promotion organization) that can initiate and facilitate the establishment of a tie between the buyer and the seller.

Networks can also be divided into other categories or types: horizontal and vertical networks as well as collaboration with third parties (Kühne et al. 2010). Horizontal networks consist of firms of the same industry, thus being primarily competitors or peers. Competitors can cooperate to share common problems that are outside the competitor's area of influence – for instance a regulatory change. Vertical networks consist of different partners of the chain involved in upstream and downstream flows of products, services, finances, and information. The vertical network includes all actors of the supply chain; supplier, manufacturer, customer.

Business networks are complex systems of interacting firms. Chandra/Wilkinson (2017) argue that instead of a firm-centric view of internationalisation a network-centric perspective would be useful, because networks are self-organizing systems, where skills, resources and customer values are co-developed.

Networking can carry disadvantages. The partner in a foreign market might have too much influence on the firm's business abroad, or the firm may sacrifice marketing control and diversification in the target market (Coviello/Munro 1995). Also, if a firm only passively follows its network into new markets, it might miss market opportunities in other leading markets where the real market potential is higher (Ojala 2009). A network may also lock a firm into unproductive relationships and can hinder partnering with other viable firms (Gulati et al. 2000). Furthermore, a network can also be dominated by just one (multinational) firm, which is not always beneficial for the SMEs. Because SMEs and their management are small and their resources are limited, their ability to utilize network advantages and exploit knowledge may also be restricted. Case studies by Sepulveda/Gabrielsson (2013) show that firms can reach a point when networks limit their further expansion, or strategic information can be blocked, making it difficult to develop products.

The network approach to internationalisation has been criticized for several reasons (e. g. imprecision, not dealing with competitors, concentrating on large firms, etc.). These points of criticism are collected by Vissak (2004). It is certainly true that there are several, not always clearly defined types of network (formal, informal, horizontal, vertical, loose, strict); therefore, "network participation" can be defined quite broadly and subjectively. Networks can also be formed in a definite area of cooperation (like R&D) and there are networks that are dissolved after reaching their set goals. Regional networks do not necessarily include only firms but local authorities, educational institutions, chambers, etc. (Sprenger 2001). As Ford et al (2002) state, there is no description of a network that would completely define it. It is difficult to define and delimit the network surrounding a company, it has no objective boundaries and its contents will be affected by the purpose of the analysis.

Exporting with the help of networks has become especially important in the past decade for Central European enterprises. As mentioned in the introduction, first, because of the international crisis, and reduced internal demand provided a push factor for SMEs to expand or begin export activities. Second, because it is well known that these countries are especially intensely involved in global production networks. The high level integration into multinational networks created a "Central-European manufacturing core" within Europe (Stehrer/Stöllinger 2015). Thus, the network internationalisation approach can be appropriate to assess SMEs in these economies, including Hungary.

There are surveys that mention the role of networks for the Visegrád companies. Daszkiewicz (2014) provides a sample of 216 internationalized Polish firms, mostly SMEs. She concludes that there is a relation between firms operating in networks and their knowledge on international markets, the types of these firms' strategies and the reasons for internationalisation. Gubik/Bartha (2014) constructed an SME internationalisation index and show a positive relationship for Visegrád SMEs between the index value and formal or informal network participation. Micro firms engaged in informal cooperation networks achieved the highest index values. Chikán et al. (2014) describe the results of a questionnaire survey among Hungarian companies that included 222 SMEs. 90 % of the respondents considered contacts with buyers and suppliers as very important in terms of internationalisation and competitiveness, and 60 % emphasized the significance of strategic partnerships. Internationalisation of Slovak IT startups was analyzed by Ferenciková/Hlusková (2015), who found that a mixture of theories can fit them the best.

Our survey among the Hungarian SMEs focuses on exports – as the most important dimension of internationalisation – and its factors promoting and hindering them after the crisis. We test the hypothesis that the significance of these factors is different for those who supply multinational companies – meaning that they participate in an international network.

Methodology

The integration of Central Europe into global production chains and the role of multinational companies have been analysed in several studies (e. g. Grodzicki 2014; Éltető et al. 2015; Stehrer/Stöllinger 2015; Ambroziak 2018), but we have less knowledge on the export characteristics of SMEs within these networks. Although there are econometric models to analyze the statistical data, these data may not answer the question: what do the SMEs really think of their export activities? In order to answer this, we employed a primary survey among Hungarian SMEs: we used questionnaires, and we interviewed company representatives.

Questionnaire surveys reflect individual opinions. For the orientation of export promotion policies, the opinion of managers on export success factors can be highly relevant. Similarly, even if an export barrier is at sectoral or country level not very significant, managerial belief in such a barrier can prevent a company from exporting. In our questionnaire we concentrated on external and internal export promoting and hindering factors[1].

In the first part of our questionnaire, questions referred to the companies' main features (foundation year, number of employees, foreign ownership, turnover, the share of export income in the total turnover). In the second part closed questions focused on the importance of export promoting factors and barriers on a four-degree ordinary scale.[2]

We enumerated four internal and four external export enhancing factors in the questionnaire, which the SME could evaluate on a 1–4 ordinal scale (1: very important, 4: not important at all). The internal factors referred to management commitment, technology development, knowledge of foreign languages and knowledge of markets. The essential effects of managerial behaviour, managers' skills, experience on internationalisation were already demonstrated in several works (see Lages 2000; Leonidou et al. 2010; Mion et al. 2016).[3] Similarly, the importance of innovation, research and development and product development in export success is emphasized in the literature (Singh 2009; Oura et al. 2016). The beneficial external factors for SME exports were predictable domestic envi-

1 Due to length limit the questionnaire is not attached, but we can provide it upon request.

2 Not important, neutral, important, very important. Apart from the pre-defined factors there was the "other" option, too, though the majority of the respondents did not live with this option.

3 In the case of Polish new ventures, Jarosiński/Mierzejewska (2017) show that the will and vision of the company management influences internationalisation.

ronment, devaluation of the currency, state assistance and fixed buyers abroad (Zou/Stan 1998).

Concerning export barriers, four external and five internal factors appeared in the questionnaire, all which the SME also evaluated on a 1–4 ordinal scale (1: very important; 4: not important at all). Lacking information, capital, qualified workforce, developed technology and foreign language knowledge are internal features that can hinder exports. As external barriers, administrative, bureaucratic regulations on target markets, exchange rate fluctuations, reorganizations within the buying firm and decrease of foreign demand were listed (discussion of export barriers can be found in Leonidou 2004; Cernat et al. 2014; Danik/Kowalik 2015).

Our target group included Hungarian SMEs with export activities. In order to select them, we turned to the county chambers, industrial associations, the Hungarian Foreign Trade Association and the Hungarian National Trading House. Between November 2016 and April 2017, we sent the questionnaire in an electronic form to these institutions, which forwarded it to their members. Altogether to at least a thousand SMEs, but we do not know the exact number of firms reached. This sampling method is similar to snowball (chain) sampling technique. By the end of the filling period, we received 176 answers, thus, the response rate can be around 10 % which meets the general experiences of international surveys. Although SMEs were targeted, some large companies also completed the questionnaire. Excluding them from the analysis, we reduced our sample to 148 SMEs. We do not consider our sample representative.

To investigate the importance of networks, our sample was divided into two groups based on whether they are suppliers to any multinational company. In this sample there were 76 suppliers and 71 non-suppliers (1 SME was excluded from this analysis because of missing data). We explored whether there is any significant difference between their reflection on export promoting and hindering factors. Since the SMEs evaluated the importance of certain factors on an ordinal scale in the questionnaire, the Levene test and the independent T-test could not be used (as they require at least interval scales). As a result, the data were analysed with non-parametric tests. Choosing the best applicable test, we had to take the characteristics of an ordinal scale into consideration, so we concentrated on the methods which are appropriate to compare the medians of a sample. Thus, we ran the Mann-Whitney test to compare the medians. The null hypothesis of the test is that the medians are the same across the two groups. If the p-value (significance) is lower than 0.05, the null hypothesis must be rejected, the medians are significantly different across the groups. If the sig-value is higher than 0.05, the null hypothesis must be retained.

Apart from the questionnaire we conducted personal interviews in the beginning of 2018. We asked if the company is open to a personal interview in the questionnaire letters. A few of them answered positively. Apart from this, based on press information we approached other firms with mixed success, so we utilised former personal contacts as well. Altogether we conducted interviews at ten firms and here we chose those two SMEs that are suppliers to multinational companies and members of networks. In this article we provide these two short case studies. Case studies go beyond statistical results, allowing us to understand the behaviour of actors and provide real-life experiences. These are important to comprehend the functioning of SMEs within networks.

Are supplier SMEs different?

The sample characteristics can be seen in Table 1. More than two-thirds of the sample SMEs operate in manufacturing, and half of the SMEs (51 %) mentioned that they are suppliers of multinational companies in Hungary or abroad. Around 15 % of our SMEs were founded after the 2008 crisis and the large majority of them are in domestic ownership. 112 firms indicated the beginning of their export activity and 65 percent of them began exporting within three years from foundation.

Table 1 Characteristics of the sample

		No. of responses	Percent of total sample
Sector	manufacturing	98	66.2
	service + trade	39	26.3
	missing value	11	7.4
Foreign ownership	yes	20	13,5
	no	127	85,8
	missing value	1	0,7
Number of employed persons	below 10	43	31,8
	more than 50	61	38,5
	below 250	44	29,7
Is the firm a supplier to a multinational?	yes	76	51,4
	no	71	48,0
	missing value	1	0,7
Total		**148**	**100,0**

Source: own calculations

SMEs that are suppliers to multinational companies and constantly have to fulfil order requirements can be considered as members of a vertical network. In our survey, we focused on the difference between supplier and non-supplier SMEs' perceptions of export influencing factors. Based on the previously described literature we expect that this influences their export activities. Our first hypothesis is that suppliers to multinationals significantly differ from other exporters regarding the export influencing factors.

As mentioned, we divided our sample into two groups (suppliers and non-suppliers, see Table 2). For supplier-SMEs, factors such as having a permanent buyer, devoted management, market knowledge, speaking foreign languages) are somewhat more important than for non-suppliers. However, we could not find statistically significant differences among the two groups (values of Mann-Whitney test are between 0.2 and 0.9, thus the null hypothesis must be accepted). Therefore, in our sample there is no statistically significant difference between suppliers and non-suppliers regarding export promoting factors. Our results, however, strengthen those arguments that confirm the importance of internal, firm-dependent factors in internationalisation (e. g. management attitude, skills of workforce).

There are some differences between supplier and non-supplier SMEs concerning export hindering factors (Table 3). Firms that deliver to multinationals consider the demand on foreign market, the lack of information, lack of language knowledge a smaller problem than non-suppliers. However, understandably, reorganization at the buyer firm is a larger barrier for suppliers. The lack of developed technology is a larger export barrier for those who do not sell within networks and do not have contacts with multinationals. However, there is no statistically significant difference between suppliers and non-suppliers in these hindering factors (values of Mann Whitney test are between 0.5 – 0.8). The exception is "lack of information", which is the only significant item (0.021 value) more important for non-suppliers. This is understandable, because regular suppliers are either provided with necessary information or do not need too much information compared to those who search for business partners on their own.

As we have seen, there are some differences, but the vast majority of the factors show statistically insignificant differences between suppliers and non-suppliers. We have to reject our first hypothesis. One possible reason for this is that firms in our sample are all exporters, even the non-suppliers have significant export activities. For those who export, promoting and hindering factors can be similar regardless of the nature of the buyer, within a network or not. Foreign market requirements necessitate certain skills and qualities.

As our literature review shows, networks can be of several types and there is a variety of ways a company can participate in networks. Our second hypothesis is that for strongly network-linked firms export influencing factors can be different to those for loose network participants.

Table 2 How important are the following factors for successful export? (in percentage of valid answers of the groups)

Factor	Mann-Whitney test P-value	Very important			Important			Neutral			Not important		
		T	S	NS	T	S	NS	T	S	NS	T	S	NS
Permanent customer on the external market	0.666	73.6	76.3	70.8	23.6	23.7	23.6	2.7	0	5.6	0	0	0
Committed own management	0.381	66.7	71.1	62.0	29.3	27.6	31.0	4.1	1.3	7.0	0	0	0
Market knowledge	0.886	62.8	64.5	61.1	34.5	32.9	36.1	2.7	2.6	2.8	0	0	0
Knowledge of foreign languages	0.490	56.8	60.5	54.2	37.8	36.8	38.9	5.4	2.6	8.3	0	0	0
Constant development of technologies	0.858	49.3	50.0	52.8	41.9	47.4	36.1	8.1	7.9	8.3	0.7	0	1.4
Stabile, predictable domestic environment	0.281	48.3	44.7	46.5	35.4	38.2	32.4	15.0	10.5	19.7	1.4	1.3	1.4
State help, promotion	0.848	24.0	22.7	25.4	32.9	36.0	29.6	36.3	37.3	35.2	6.8	4.0	9.9
Devaluation of the domestic currency	0.931	11.7	14.9	8.5	33.1	27.0	39.4	49.0	52.7	45.1	6.2	5.4	7.0

Note: T=total, S=suppliers, NS= non suppliers
Source: own calculations

Table 3 What factors hinder successful export? (in percentage of valid answers of the groups)

Factor	Mann-Whitney P-value	Strongly restrictive			Restrictive			Neutral			Not a barrier		
		T	S	NS	T	S	NS	T	S	NS	T	S	NS
Demand on foreign market	0.807	39.9	35.1	44.9	41.3	47.3	34.8	12.6	9.5	15.9	6.3	8.1	4.3
Lack of information	0.021	37.9	29.3	47.1	49.7	52.0	42.9	9.7	13.3	8.6	2.8	5.3	1.4
Lack of foreign language knowledge	0.721	31.5	28.4	34.8	47.6	48.6	46.4	12.6	13.5	11.6	8.4	9.5	7.2
Lack of capital	0.864	29.2	29.3	29.0	52.8	52.0	53.6	13.2	13.3	13.0	4.9	5.3	4.3
Lack of qualified workforce	0.754	24.3	21.3	26.5	47.6	48.0	47.1	21.0	20.0	22.1	7.7	10.7	4.4
Lack of developed technology	0.605	23.8	18.9	30.0	50.0	52.7	47.1	19.4	20.3	18.6	6.3	8.1	4.3
Administrative, bureaucratic regulations on target market	0.591	21.7	24.3	18.8	44.1	44.6	43.5	27.3	21.6	33.3	7.0	9.5	4.3
Reorganisation at buyer firm	0.839	11.3	17.8	4.3	44.4	39.7	49.3	34.5	31.5	37.7	9.9	11.0	8.7
Exchange rate fluctuation	0.744	11.2	12.3	10.0	40.6	41.1	40.0	41.3	39.7	42.9	7.0	6.8	7.1

Note: T=total, S=suppliers, NS= non suppliers
Source: own calculations

To attain deeper insight we made personal, semi-structured interviews with CEOs of SMEs. In the following we chose two cases that illustrate operations within networks: Antal Metal Trade that produces and sells completely within a German network, and Adu Alba that is a "lonely fighter" and supplies several multinational companies mostly in Hungary.

Case study – Antal Metal Trade Ltd

Attila Antal founded Antal Metal Trade Ltd in a South Hungarian village in 2009. The company focuses on manufacturing special stainless steel and aluminium vehicle bodies, parts for these and single- and multi-axle trailers. Quality manufacturing is based on a high level of skills and knowledge, and on the machinery park with new equipment purchased from Western countries. In the first years, the employees of the company effectively worked on the German premises of Köpf Fahrzeugbau GmbH. In 2014, Mr. Antal decided to bring the manufacturing process from Germany to the Hungarian location. The German Köpf Fahrzeugbau GmbH became owner of 30 % of Antal Metal Trade Ltd.

The company rapidly grew, doubling its revenues from 2015 to 2016. In 2016, the company built a 600-m² manufacturing hall. In the past few years, revenues continued to grow dynamically, 90 % of which is due to exports. Antal Metal Trade Ltd. mainly realized process and organization innovation. With the newly purchased equipment and machinery higher quality products can be manufactured, and the work processes have also been changed. The company builds their export activity on these factors, and continuously looks for technologically more advanced equipment. As for organization innovation, changes in ownership can be mentioned. Meanwhile, the company did not launch new products, but has produced the same products as it did in Germany.

The company launched its activities with 6 employees, now they have 9, but they would like to employ more people. However, it is difficult to find skilled labor, this is why the company offers training places for students studying in vocational schools. The fluctuation of the employees is very low, due to the fact that most of the group worked together in Germany after the firm was established. They are all committed to their job and do not seek other opportunities. The company suffers from the negative consequences of the labour shortage: the firm has to reject orders and because the working processes are divided into smaller parts, it is difficult to arrange substituting when people are on holiday.

Internationalisation in a network

According to the company's leaders, their good results rely on the fact that their work is precise and offers high quality. Their financial situation improved due to the sales of high-quality products to their partners. As a result of this, the company can sell its products at higher prices, and the majority of the profit is reinvested in manufacturing and technology development. The firm also uses bank loans to finance its activities. They also consider their positive working spirit as the basis for success. Antal Metal approaches all foreign markets in a similar fashion, not differentiating between the markets they enter (although for a long time the target was only Germany).

Their export activity and internationalisation process that orders are received from the German owner is an important factor, and the company does not have to look for partners on its own. The close partnership and the operation in a network ensure a stable market.

When ownership changed in 2014, Antal Metal Trade Ltd exported exclusively to Germany (to the owner), but in 2017 a Swiss partner also appeared. The company built a relation with this Swiss company through the German owner (the Swiss partner ordered products from the German owner, but the transportation is organized directly with the Swiss company). For the next five years the German and Swiss orders completely booked the production capacities of the firm. Presently the company's products appear in two countries: Germany and Switzerland. Antal Metal Trade Ltd. emphasized that they do not plan to enter new markets, since they are so overbooked that they had to refuse several Hungarian orders. Nonetheless, through the German owner a French connection is also in progress. Altogether, the export activity and expansion of Antal Metal Trade Ltd is eased by the German owner providing the network and the workload: the higher age and the nationality of the German owner may also contribute to this success. German contacts are decisive in the export activity of the firm, so their decisions are not influenced by cultural proximity or the environment of the foreign rules. The case of Antal Metal Trade Ltd therefore well illustrates economic models and literature on network internationalisation emphasizing that being in a network provides additional resources and secured markets (Pittaway et al. 2004, Ratten et al. 2017).

The coordination of the company's international activities is managed by the CEO and his daughter. Neither of them have qualifications in foreign trade, they both learned these tasks in practice (during a period of 6–10 years), and they both speak German fluently. So rather than formal advisory services and trainings, informal learning and the learning by doing are more important in this company. The informal contacts are also important to preserve foreign partners: the German owner visits them 2–3 times annually, and the Swiss partner has also visited the company.

The company did not apply for state support or national financial assistance. However, they implemented three EU-financed projects: these aimed at purchasing new equipment with which they could improve their machinery park. This equipment supports high quality manufacturing in the long run.

Compared to the results of our questionnaire survey, the export influencing factors are different for Antal Metal Trade Ltd, and the reason for this difference is the strong participation in a network. For the average Hungarian SME, a permanent customer, committed management and market knowledge are the most important contributors to successful export. Meanwhile for Antal Metal Trade Ltd these were already given from the start. For them good quality and skilled labour are essential for the success of exports. In our sample, the lack of foreign demand, lack of information or capital were highly important export barriers, but for Antal Metal Trade Ltd these are irrelevant, they did not mention any barriers, having enough demand, capital and information.

Case study – Adu Alba Ltd – standing on their own

Adu Alba Ltd is a family-owned supplier firm, founded in 2003 in the city of Székesfehérvár by Mr. József Varga and his wife. The ownership and management remained the same and no foreign capital has been introduced. The owners previously worked at a large multinational company for six years, and they finally decided to establish an own enterprise. Their experience at the multinational company (management, human resources, negotiating with customers, procurement, marketing) is utilized for their current business. The main principle was to find solutions to the real needs of multinational affiliates in Hungary. The owners undertook several tasks in the firm and self-trained themselves.

The firm now produces vacuum formatted precision trays, packaging materials, one-way and multi-way wooden or plastic pallets, etc. The products are completely customised according to the buyers' needs. They not only offer customer-defined products, but fully cover packaging technology from design to the implementation phase. In addition, the company also provides quality services to partners (on site). For around seven years now the company also produces machine-tools with CNC technology. They have ISO and MEBIR certifications and they also provide on-spot rework. The company supplies around 15–20 multinational affiliates (in the food industry, metallurgy, automotive industry etc.), among which are a few automotive plants.

The international crisis years between 2008–2011 were difficult for the company but the survival strategy aimed at higher quality and specialisation based on individual needs. Machine tool production began right after the crisis in order to be able to produce such specialised products. In 2015, a new 1800m2 packaging technology plant was inaugurated. In 2016, Adu Alba received the "Factory of the year" prize from a Hungarian Media agency. In the same year they won the "World Star" prize of the World Packaging Organisation with a light packaging polyethylene tray product. The company has not used much state aid, but they did receive EU funds for research and development. Profitability of the company has been fluctuating although somewhat increasing in the past five years. Profits are mostly reinvested in the firm. A possible risk for the company's development can be the decrease of demand for its products as a consequence of a new crisis.

Factors of success in international relations

The most important component of success is *managerial attitude.* In this respect the company is similar to those in our survey sample, where committed management was an essential success factor. The main driver of Adu Alba's success and profitability is the director's person. His way of thinking (everything can be solved) and own ideas on functioning are the basis of the company. Management's aim is to create a unique company culture, production quality and outstanding direction. The director thinks that the exact satisfaction of the buyers' needs (in quality and delivery time) is essential. He also finds it very important to have a coherent organisational system, with responsible individuals. According to the director, speaking foreign languages, having proper contacts and trustable partners is also very important,.

There are around 60 employees at the company. There is fluctuation among workers, because those who cannot understand or accept the firm's philosophy (working hard and punctually, not only on one task) tend to leave. It is not easy to find qualified workers, but this impediment is surmountable. Employees' work is honoured, work is done in a single shift, strict requirements are laid down and familiarity is present. The firm participates in dual education programs collaborating with a university. According to the director, labour shortage in the manufacturing sector has a certain positive effect on pricing, because buyers/partners are willing to pay more for quality (quality workers and quality work).

Another essential success factor is *constant innovation and product development.* This also proved to be important in our survey. The main philosophy of the company director is constant innovation, developing new and unique products or ideas. This was the case with the prize-winning products and there are also some more future innovation plans. Products are made with precision and just-in-time delivery is essential. The pricing is reasonable. Products are not the cheapest, but highly reliable. A third element of success is g*ood marketing and brand building.* The beneficial effect of certain marketing tools is easily observable in the case of Adu Alba. These are not the usual publicities simply advertising the firm, but specific, targeted media attention. The best way for this is winning prizes, creating something unique, innovation. After the firm became the "factory of the year" and won a world prize, mentioned several times in the media, they became more famous, leading to more orders. In 2018, a short film was also made about the company and was transmitted several times on a television channel. Prizes and media attention help to build the company brand. According to the director, it is not worth participating in fairs, because making connections via the Internet can be more useful and direct contacts via people are even better.

These case studies reflect important lessons and strengthen the findings of the questionnaires. First, being a member of a production network (Antal Metal) provides a company with advantages, but it does not solve all problems (e. g. lack of skilled labour, lack of capacities to meet all the orders). Second, in both cases the attitude of the management plays a significant role in the companies' success. Leaders both represent an attitude of no compromise regarding high-quality products and the quality of the workforce. Third, without an intensive network membership (Adu Alba) sales requires much more effort and investment in product development and marketing. This is a significant difference that confirms our second hypothesis about the differences between strong and loose network participation.

Conclusion

In this article, we explored through Hungarian SMEs how internationalisation is affected by participation in a production network.

Based on the responses of 148 companies, we found that among SMEs who supply multinationals and those who do not, differences are generally statistically insignificant. The only exception is the information factor; non-supplier firms are in need of proper information on the foreign markets it operates in.

Our assumption for the insignificance in differences is that all firms in our sample export to foreign markets. This fact – independent of being a supplier or not – in itself forces them to adapt to the market needs abroad, to fulfil quality and delivery requirements, amongst others. Apart from this, – as identified in the literature review – "network participation" can be defined broadly and subjectively (Vissak 2004), ranging from a strong dependence on a single lead firm to a loose partnership as a supplier. Differences in export influencing factors can appear along these lines depending on how strongly the SME participates in a network.

We illustrated strong and loose network participation via two case studies. One firm is closely linked to and partly owned by its foreign buyer, meets foreign standards, offers precise deliveries and has a sufficient number of orders. Their opinion on export enhancing and hindering factors is different from the general pattern we observed in our SME sample in the survey. The other firm is a Hungarian family firm supplying several multinationals, seeking orders on the market and building contacts on its own. They also have to focus on precision in their deliveries and need to fulfil quality requirements. Speaking foreign languages, devoted management and working spirit are equally important factors of success in both cases. Both firms share the characteristic that they have not (or only scarcely) used state aid, only EU funds.

There are a few relevant differences between the two firms. The strongly network-integrated company does not undertake product innovation, they produce the same products. On the other hand, the loosely network-involved firm constantly innovates and creatively develops new products to meet buyers' needs. Apart from innovation, there is also a difference in marketing: the company attached to the foreign partner does not need to engage in such activity – because its partner fills its order books, but the weakly network-integrated firm allocates strong efforts to marketing by building its brand, winning prizes and seeking media contacts.

The benefits of being in a network are pronounced in the case of the first company, because its market and information is secured and the firm is shielded from barriers of internationalisation (Giovanetti et al. 2014). The company is restricted in its decisions (Hakansson/Ford 2002) but also is on good terms with the German partner firm. Furthermore, the foreign partner has a large influence on its business and production, the local firm is a rather passive follower (Coviello/Munro 1995). The firm is "locked" (Gulati et al. 2000) but partnering with other firms is not hindered, exemplified through a developing relation with a Swiss partner. At this Hungarian firm, there is practically no marketing and innovation, but it does not need to resort to these tools, since its full export capacity is utilized. Dependence here means safe sales opportunities – but the firm is bound to the destiny of the foreign partner.

The partner contacts of our second firm are strongly diversified since this company participates in loose networks of several multinationals. It practically conducts business on its own. Decisions are made independently by the leadership of the family-owned firm, the profile of which is shaped by the owners. Its functioning requires much more effort and financial resources than in the case of the first company, but in return there is more independence.

We find our results significant from three main aspects. First, our survey results and case studies show the importance of managers' devotion and capabilities and the skills of the labour force. Second, being a supplier does not necessarily lead to large differences in results, but exporting activity itself can require high quality and product development. Third, as demonstrated by the case studies, we did find differences in internationalisation behaviour of SMEs that are strongly and loosely integrated into a network.

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