MODEL FOR ASSESSING THE SUCCESS OF SMEs IN THE INTERNATIONALIZATION PROCESS

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Abstract

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The paper deals with evaluating the success of small and medium-sized companies in internationalization process. The process of internationalization is defined in the literature in a many ways; there is a countless variety of different approaches and models of internationalization process of firms. Like all processes in the firm also the internationalization process is accompanied by risks. For risk management it is important to know what the key factors of success are in the international arena. In this article is presented a simple evaluation model that could be used by SMEs to determine not only how strong are they compared to competitors, but also at what level are their key success factors in the process of internationalization. The aim was to find a simple method to help small and medium enterprises to assess their situation in the field of internationalization and to help them identify their strengths and weaknesses in this area. Proposed simple evaluation model has the graphic output from which it can be seen in which areas the company is doing well in internationalization process and in what areas is doing badly – then there is room for further improvement. Creating the model it was essential to divide the various factors into several groups and further evaluation to determine the range by which SMEs can quantify the level of success in internationalization process. Before the model was constructed it was necessary to collect data among small and mid-sized firms, and to process the outputs of the survey. After confirmation or to rejection of the certain hypotheses key success factors of SMEs in the internationalization process were selected and these factors were then aggregated into 4 groups. The model was then applied to data obtained from a survey of 40 SMEs and in the paper there are presented specific examples of graphical output of the model for the best and worst rated company. Authors are aware that the model is simple and has its limits, there is the need of much more work and the authors foresee further modifications of this model.

internationalization process, key factors of success, evaluating model, SMEs

Internationalization of the firms is generally defined as the involvement in the international environment. The concept of internationalization in the literature varies widely by various authors, such as Beamish (1990, In: Pollard, Šimberová) understands internationalization as a process by which firms increase their awareness of the direct and undirected effects of internationalization transactions on their future and create and manage transactions with other countries. The process of internationalization can be also defined as "the process of increasing involves in international operations" (Welch, Luossstarinen; 1988). The process essentially involves the adaption of firm operations like strategy, structure, resources etc., to perfectly fit the international environments. Furthermore, the degree of internationalization can be measured as foreign sales relative to total sales. (Welch, Loustarinen; 1988).

The internationalization process can be described as a gradual development taking place in distinct stages (Melin, 1992). The international process can be clearly identified under two major schools: the models initially developed by Johanson and Wiedersheim – Paul, 1975 and Johanson and Vahlne, 1977, referred to as Uppsala models (U-models) and the Innovation-Related internationalization models (I-models) conceptualized by Cavusgil 1980. Both the I-models as well as the U-models emphasize on firm's involvement in foreign market segments, both of the models view internationalization as a gradual

incremental process. U-model is more often featured in international business literature. The entering of new markets by the company is usually perceived as a psychically near.

Many companies do not follow incremental stage approach but is often reported that they start their international activities immediately from their birth (Anderson et al., 2004). Literature defines them as "born globals" (e.g. Oviatt, McDougall; 1997). Although the "born global" phenomenon is relatively new phenomenon in International Business, it is described in many international literature, e.g. Knight and Cavugsil (1996) define "born globals" as "small technology oriented companies that operate in international markets from the earliest days of establishment".

It is possible to find out various classifications of internationalization models in the literature, for example Li, Li and Dalgic (2004) divide theoretical approaches to internationalization processes into 3 main groups: the first is called "Experiential Learnig", where theories of Johanson and Vahlne, or Lam and White or Cavusgil can be involved. The second group can be called "Systematic planning" (Root, 1987; Miller, 1993; Yip, Biscarri, Monti; 2000) and the third group involves theories from e.g. Welch, Boter and Holmquist or Coviello and Munro. This group of theoretical perspectives can be called "Contingency perspective".

In last few years there are many other authors who criticize all of these theoretical models of international process and they try to put together all known approaches and develop some hybrid models of internationalization process (e.g. LI, Li and Dalgic 2004) which reconciles different theoretical perspectives and bears normative implications for managers. In their opinion this hybrid models can help specially to SMEs for examining the internationalization process, because the process of internationalization of small and medium – sized enterprises is different than the international process of MNEs. SMEs usually have limited resources; have less internationally experience than multinational MNEs and they often have to respond to international market opportunities in a very timely manner.

In connection with the internationalization theories the issue of key success factors in the internationalization process of SMEs is often asked question. Many surveys and researches were carried out to sum up the key factors of internationalization process success. And not only identification of the key success factors but also evaluation of the international process is often discussed problem. Authors have previously focused on the possibility of quantifying the factors that determine the success of SMEs (Peprný, Kubíčková, Rovný; 2009), where according to the multidimensional evaluation indicators small and midsize businesses can be divided into 3 groups: "fail", "successful" and „very successful." This evaluation system monitors the proportion of export sales and profitability of international activities (both absolute and relative). Based

on these data was then evaluated the overall success of SMEs in international activities. SMEs, however, in practice, often have difficulty to determine which areas they have to improve to be more successful in the process of internationalization. Therefore authors decided to focus on creating a simple model of evaluation that have to be able to clearly demonstrated in which areas SMEs are doing well and vice versa, where the reserves are. The model also should show what specific individual quantitative and qualitative factors are affecting the success of each company. To sum up – the aim of this paper is to show a draft of simple evaluating system, which can help SMEs to value their key factors of the internationalization process success. This elementary model was created as a simple tool for SMEs evaluation of their performance in international trade and for comparison with competitors.

MATERIALS AND METHODS

SMEs in Czech Republic as well as in the other countries of EU play very important role in the international arena. SMEs share of employment since 2002 is more than 61%, GNP share is about 35% and their import share is continuously increasing, from 2004 it is more than 50%.

The market research was held in 2008 focused on the small and medium sized engineering companies. Overall 339 respondents were interviewed by e-mail questionnaires, only 47 responses came back, etc. return questionnaires was 13,86%. There were some not correctly answered questionnaires, so only 40 responses were processed. The obtained date were processed by traditional statistical methods, there were calculated absolute and relative frequencies.

Results of the questionnaire were divided into 5 basic areas: general information, the degree of internationalization, the profitability of foreign trade operations, international marketing and key employees. It was established six hypotheses that have to be verified on the basis of data obtained.

As an example we can cite the following hypothesis:

There is no dependency between the percentage of core employees and size of sales from abroad.

Test of the correlation coefficient was used, T is test the criterion:

H0: $\rho_{yx} = 0$ H1: $\rho_{yx} > 0$

$$T = \frac{r_{yx}\sqrt{n-2}}{\sqrt{1-r_{yx}^{2}}}; \frac{0.2675\sqrt{40-2}}{\sqrt{1-0.2675}} = 1.7113$$

$\alpha = 0.05$ is $\mu_{1-\alpha} = 1.68595$

$1.7113 > 1.68595$ .... hypothesis is not reject

$\alpha = 0.01$ is $\mu_{1-\alpha} = 2.42857$

$1.7113 < 2.42857$ .... hypothesis is reject

At the level of significance 0.05 the presumption of the null hypothesis was rejected since there

is a significant difference. With a 5% risk of error is possible to argue that there is dependence between the size of revenues from abroad and the percentage of key employees.

RESULTS

Example of simple evaluating model was created to help SMEs evaluate their performance in international trade and for comparison with competitors.

All factors which can determine the internationalization process were aggregated into 4 groups: 1) Key employee, 2) Internationalization rate, 3) International marketing, 4) Efficiency of foreign trade. For more details see Fig. 1.

The crucial principle in this suggested evaluation system is the fact, that each of these four groups has the same importance in the evaluation system. The rating system is based on subjective evaluation, every group contains 4 questions and absolute maximum per one question is 30 points. Exact 4 point rating scale for every particular question was set up and with each stage range was assigned a certain amount of points. The minimum levels were determined 7.5 points and the maximum was 30 points, as mentioned earlier (for example see Table I). This scale was used with regard to the graphical model output.

Particular questions and evaluation scale for every individual question was set up from authors experience gained by more than 4 years researching

the internationalization process area and also from results of above mentioned research of 40 Czech SMEs.

For example, the issues listed in Table I is based on the assumption that exists a relationship between the percentage of key personnel and size of sales from abroad. This dependence was verified by testing hypotheses. The maximum number of points is assigned to the variant of 75–100% while the lowest score to the variant accounts for 0–25%.
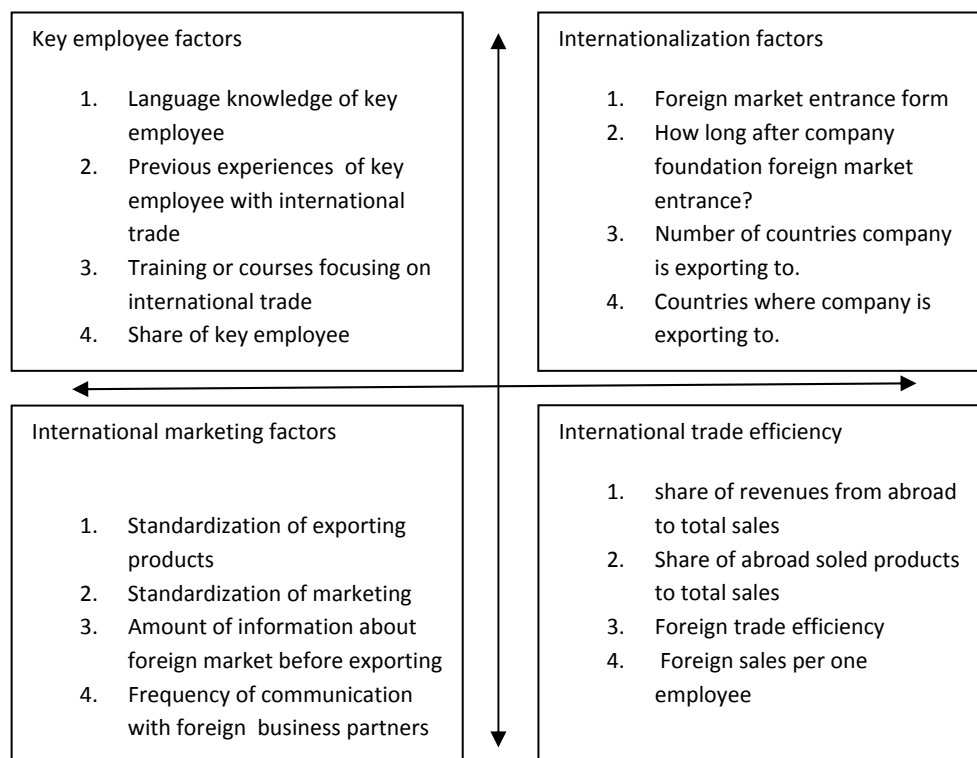
The evaluating system should help to SMEs to assess their internationalization abilities easily therefore the model has a graphical output. There were two basic requirements for graphic design – easy workability and easy interpretation of results.

Graphic output of the ranking system is based on the following principle: the sum of the points in

I: *Example of point rating system*

Point rating system		
Group of questions	**answer**	**points**
Key employee	4	120
1. What is the percentage of employees that have to be involved in more than 50% of the foreign activities of your business?	0–25%	7.5
	26–50%	15
	51–75%	22.5
	76–100%	30

Source: own results and own evaluation

Key employee factors	Internationalization factors
1. Language knowledge of key employee 2. Previous experiences of key employee with international trade 3. Training or courses focusing on international trade 4. Share of key employee	1. Foreign market entrance form 2. How long after company foundation foreign market entrance? 3. Number of countries company is exporting to. 4. Countries where company is exporting to.
International marketing factors	International trade efficiency
1. Standardization of exporting products 2. Standardization of marketing 3. Amount of information about foreign market before exporting 4. Frequency of communication with foreign business partners	1. share of revenues from abroad to total sales 2. Share of abroad soled products to total sales 3. Foreign trade efficiency 4. Foreign sales per one employee

Source: own results

1: *Aggregating key – factors into 4 groups*

each of the 4 main groups of issues will be delivered to the appropriate axis. The resulting quadrilateral will show us, in what area company's strengths or weaknesses are. For accurate comparison of outputs for various periods or for comparisons of results between individual companies calculation of the area of quadrangle is necessary.

Calculation of the area of the quadrangle has been simplified as the calculation of the area of two triangles, where "b" is the base, in this case it is the sum of scores of questions in the groups "key employees" and "performance of foreign operations".

$$S = \frac{b \times h}{2}$$

(S is the symbol for area).

Similarly, "h" is the height of the triangle and is obtained as the sum of points in the group "Internationalization factors". The second triangle area is calculated by analogy, the base remains the same and the height is the sum of points from the group of "International marketing" (See Fig. 2). The last phase of the calculation is to give the ratio of the actual area to the maximum possible area. The maximum possible area of quadrangle (in this case a square) is 28 800 square units.

Proposed evaluation model was applied to 40 engineering SMEs, required information and data were obtained from the above mentioned survey. Best results are achieved business where quadrangle area rate was 73.69% and the worst appeared firm, where quadrangle area rate was 22.85%. For more details about particular score see tab. II.

For graphical comparison of the best and worst companies see Fig. 3. The diagram shows the difference between the rated companies – it is possible to compare them and see in which areas the individual firm has a room for improvement. At the left size is company No. 21 – the worst one, at the right size is company No. 33 – the best one.

DISCUSSION AND CONCLUSION

For SMEs it is often difficult to succeed and then to maintain the position in the foreign markets than for large multinational companies. Large enterprises have more opportunities to detailed analysis and evaluation of factors that have to determine their success in the field of internationalization. In the current literature there are not many models which SMEs have shown how easily assess their situation in internationalization process. The authors followed up on previous efforts to design assessment method of evaluating the international success of small and medium sized companies (Peprný, Kubíčková, Rovný; 2009), however they tried to simplify the previously presented method to be applicable to SMEs in practice and they have tried to adapt the evaluation model to the needs of small and medium sized businesses. The proposed rating system could be further adjusted in practice. It is possible to modify the weight of individual blocks as needed for particular businesses. When company according to the analysis of its situation knows that in a specific area has the weakness, it can focus on this area just by adjusting the weights. It is clear that knowledge of the strengths or weaknesses of the company gives some competitive advantage over other competitors,
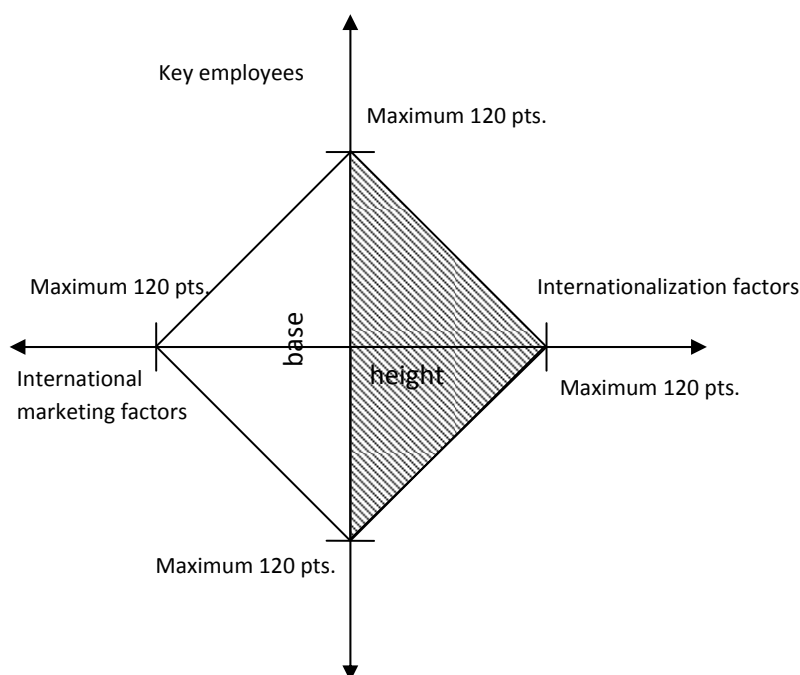
Source: own results and own evaluation

2: Calculation of the area of the quadrangle

but in the practice SMEs in the internationalization process face the question of determining which factors most significantly affect their eventual success or failure in the process of internationalization.

Abroad have been many surveys aimed at finding an answer to the question "What are the crucial factors in the process of internationalization?". The authors have realized the survey of engineering SMEs

II: *Point evaluation of companies*

Company number	IF score	ITE score	IM score	KE score	Area rate in %	Company number	IF score	ITE score	IM score	KE score	Area rate in %
1.	72	75	76.5	63.5	35.71	21.	62	57	55.5	55	22.85
2.	57	102	82.5	77.5	43.47	22.	97	87	75	63.5	44.94
3.	82	81	76.5	84.5	45.54	23.	82	117	90	102	65.40
4.	57	87	82.5	81	40.69	24.	102	105	90	69.5	58.17
5.	62	63	75	71	31.87	25.	62	90	82.5	53.5	36.00
6.	67	72	75	57.5	31.93	26.	82	108	75	90.5	54.11
7.	62	84	76.5	63.5	35.47	27.	87	84	69	47.5	35.61
8.	77	105	67.5	86	47.92	28.	62	62	64.5	66.5	28.22
9.	82	81	60	65	35.99	29.	62	57	75	87.5	34.37
10.	57	93	69	80	37.84	30.	57	63	75	57.5	27.61
11.	77	87	69	96.5	46.51	31.	77	105	82.5	77	50.40
12.	72	63	70.5	65.5	31.79	32.	72	93	90	68	45.28
13.	52	54	90	91.5	35.87	33.	92	120	97.5	104	73.69
14.	57	108	90	71	45.68	34.	72	81	75	80.5	41.22
15.	87	108	82.5	95	59.74	35.	57	99	75	71.5	39.07
16.	97	111	75	83	57.96	36.	62	105	97.5	75.5	49.98
17.	52	75	75	63.5	30.54	37.	72	78	82.5	65.5	38.49
18.	87	96	75	92	52.88	38.	72	84	63	51.5	31.76
19.	62	66	57	63	26.65	39.	86	93	97.5	89	57.98
20.	62	87	82.5	88.5	44.03	40.	72	75	61.5	72.5	34.19

Source: own results and own evaluation
Legend for tab. II: IF......Internationalization factors
ITE...International trade efficiency
IM ....International marketing
KE ....Key employee
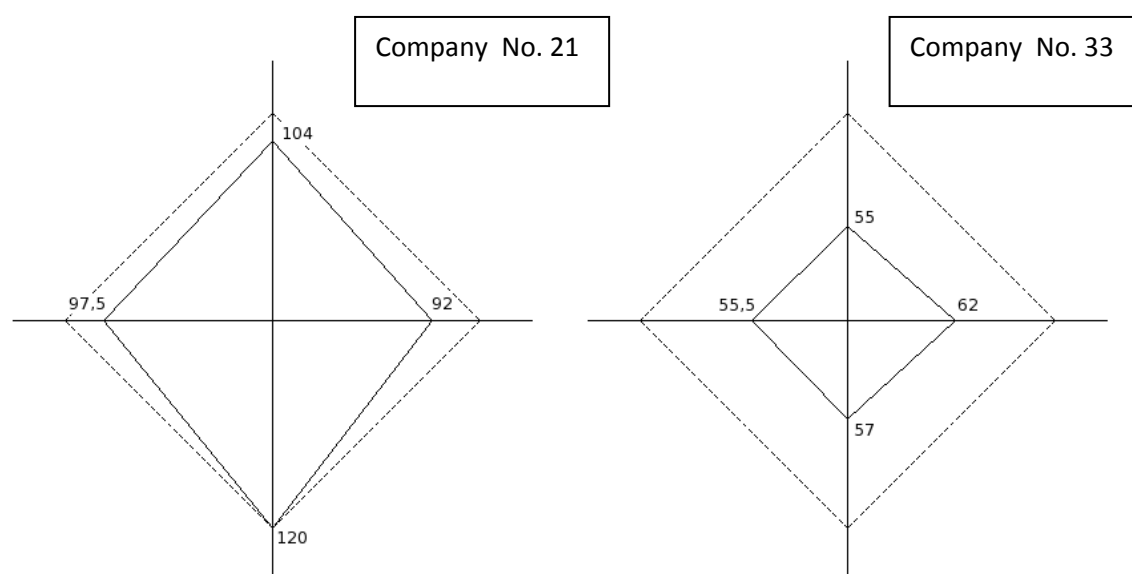
Source: own results and own evaluation
3: Examples of graphical output for particular evaluated company

and the outputs of this research fully correspond with the evidence indicates that foreign authors. Identified key success factors were then aggregate into organized groups that have to pertain together. The proposed model is very simple, the evaluation range of factors have been deliberately designed with regard to the graphical model output. Graphical output of the proposed evaluation model shows in which areas the assessed the company has some reserves and in which areas is doing well.

SUMMARY

A lot of small and medium-sized companies have problems to identify the key success factors in the process of internationalization, as well as to determine in what areas, that success in foreign markets determine, have their strengths and weaknesses. There is presented a proposal of a simple model of evaluation of small and medium-sized enterprises in this paper. The key success factors of internationalization process are identified according to a survey of 40 small and medium enterprises and also the use of the knowledge of literature and similar surveys conducted abroad. These factors were grouped into 4 categories and the proposed rating system because of its graphical output simply shows what the area has a rated entity weaknesses and where its strengths has.

SOUHRN

Model hodnocení úspěšnosti malých a středních podniků v procesu internacionalizace

V současnosti je pro mnoho malých a středních firem poměrně obtížné identifikovat klíčové faktory úspěchu v procesu internacionalizace, stejně tak, jako stanovit, v jakých oblastech, jež úspěch na zahraničních trzích determinují, mají své silné či slabé stránky. V příspěvku je prezentován návrh jednoduchého modelu hodnocení malých a středních podniků, kde jsou na základě dat získaných od 40 malých a středních podniků a dále na základě využití poznatků z odborné literatury a obdobných průzkumů prováděných v zahraničí určeny klíčové faktory úspěchu v internacionalizačním procesu. Tyto faktory jsou agregovány do čtyř skupin a navržený systém hodnocení díky svému grafickému výstupu jednoduše ukáže, v jaké oblasti má hodnocený subjekt rezervy a kde jsou jeho silné stránky.

proces internacionalizace, klíčové faktory úspěchu, model hodnocení, malé a střední firmy

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