

THE METHODOLOGY FOR INCREASING SME COMPETITIVENESS BY USING E-ENVIRONMENT

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ABSTRACT

Having performed a number of studies, the authors of the article have come to a conclusion that substantial problems exist in the use of e-environment tools for the purposes of entrepreneurship among the micro-, small, and medium enterprises (SME) [1,2]. Lack of skills of using e-environment tools and deficient knowledge of the tools are identified among the most essential problems. A phenomenon known as the digital gap is forming between enterprises reducing an enterprise's competitiveness and its possibilities to operate in the e-market. Based on the study results, as well as on the practical and scientific experience, the authors of the article have developed a methodology, which enables increasing SME competitiveness by using e-environment tools. The methodology can be applied universally, and that might be particularly profitable for companies with limited financial and time resources, and the authors see micro enterprises as the main target audience for practical application of the methodology.

Keywords: electronic environment, SME, methodology, entrepreneurship.

1. INTRODUCTION

The e-market, being an intrinsic part of the e-environment, is vitally important for SMEs. Effective use of the e-environment enables enterprises to compensate for or substitute lacking resources, because a considerable part of e-environment tools is available free of charge or requiring minor financial investments.

The aim of the article is to give an account on the key results of the study conducted by the authors of the article with regard to the use of e-environment tools by Latvian enterprises. Moreover, it presents the authors' developed methodology for improving SME competitiveness by using e-environment, intended for Latvian enterprises. Taking into account the fact that the entrepreneurship situation in Latvia and other EU countries is similar [3], as well as that the development of

the methodology is based on the EU scientific and theoretical base, the authors of the article are certain that it will prove useful also for EU companies.

The study object is SMEs. The study subject – improving the use of e-environment tools in entrepreneurship by using the authors' proposed methodology.

In the article, the authors employed various research methods – both qualitative and quantitative: bibliography sources, a factor analysis, the focus group method, etc. The theoretical and practical foundation of the article is based on materials and publications in mass media, including internet resources.

2. STUDY ON THE USE OF E-TOOLS IN LATVIA

Time of survey: May–October 2012. The aim of the survey performed by the authors was to find out, which e-environment tools are used by companies, what their intensity of use is, and what their skills to handle them are. In the survey, the level of entrepreneurs' knowledge and attitude towards e-environment tools in general was elucidated. Altogether, 526 respondents took part in the study (see Table 1).

The survey questionnaire consists of three question blocks. Each block includes several questions forming the information source for performing the study.

The *first block* of questions includes questions related to the use of e-environment tools in entrepreneurship – frequency, regularity, intensity, aims of use, etc.

The *second block* of questions is dedicated to the companies' or entrepreneurs' digital knowledge level, knowledge of e-environment tools, their potential, and use for entrepreneurial aims.

The *third block* consists of structural questions – finding out the size, field of operations, period of operations of the company, etc.

The survey results show that e-mail and the website analyzer are the most popular e-environment

tools, as they are used by 95 % of all respondents, followed by the next popular tool – a company’s website used by 68 % respondents, communication tools (for example, Skype, MSN etc.) – used by 63 % of companies. Online social networks are used for entrepreneurial needs by 57 % of the surveyed companies. E-government services, including the electronic tax reporting system is used by 44 % respondents.

Table 1

Description of study sample

Description	Description	Respondent number (people)	Percentage (%)
Gender of respondents	Male	284	54.0
	Female	242	46.0
	Total	526	100.0
Age of respondents	15–35 years	354	67.0
	36–47 years	132	25.0
	48–66 years	21	4.0
	68–83+ years	21	4.0
	Total	526	100.0
Company’s category	Micro	232	44.1
	Small	274	52.1
	Medium	17	3.2
	Large	3	0.6
	Total	526	100.0

Generally, well-known e-environment tools are among those that are included in a company’s toolbox, while a considerably smaller part of companies use lesser known tools.

E-survey websites are used most intensively among the respondents (8.90 out of 10), and sites for posting presentations and images are actively used as well (8.69 out of 10). The survey results point to intensive use of the following tools: e-sale websites (8.46 out of 10), a company’s internet website (8.40), a corporate blog (8.37 out of 10), e-training (8.27 out of 10). The survey results indicate that companies are actively employing various selling and communication tools.

Among the most popular aims of using e-environment tools are the following:

- E-mail – for communication with employees, clients, and potential clients (93 %);
- Communication tools – for communication with employees, clients, and potential clients (59 %).

Upon summarizing answers to this question, the authors conclude that companies are employing a very narrow range of e-environment tools for rather specific aims. It is most likely linked to lack of awareness among companies about the e-environment tools as such and about the different uses of these tools. Companies are only informed about the traditional aims of e-tool application. However, currently, nearly all e-environment tools can be used not only for direct, but several other aims. For instance, payments, purchases can be made, and other

activities can be carried out using social networks. It has become possible owing to IT development and convergence of e-environment tools.

To perform an in-depth analysis of the respondents’ answers to questions, as well as to comprehend the factors affecting the application of e-environment tools, the authors of the article have performed a factor analysis. With the factor analysis procedure, the authors have identified and interpreted ten factors (see Table 2).

Table N2

Factors affecting e-environment tools

#	Factor Name	Authors’ remarks
1	Company manager’s and management’s comprehension of the uses of application of e-tools	
2	Understanding communication tools and their application in entrepreneurship	
3	Understanding of e-business models	having regard to the variables in this factor, as well as to the correlation coefficient, it can be concluded that companies do not have a clear understanding of the meaning of e-business models.
4	Company’s communication with stakeholders	
5	Company’s website as a sales and marketing tool	companies have these tools, but they do not have understanding of their purposes and how to use them
6	Use of e-environment tools in market and consumer studies	companies are informed of the existence of these tools, but are not aware as to how they can be used
7	Understanding of services offered by the state	the factor is affected not only by the weak application of these business tools, but also by shortcomings of several e-government tools, which encumber their use
8	Acceptance of e-environment tools among employees	
9	Versatility of e-environment tools at a company	
10	Use of state offered e-services for business and private needs.	

Based on the study results, the authors conclude that overall companies are using e-environment tools. There is obvious lack of awareness and poor knowledge of entrepreneurs about the application of e-environment tools in business. A positive conclusion is that SMEs understand that e-environment tools can be used to replace / supplement the deficient or lacking resources. Companies are also willing to gain knowledge and learn how to use e-environment tools for entrepreneurship needs. Several answers point to partial acceptance of e-environment tools among company managers and employees, and that is an obstacle for proper application of these tools.

The study results proved the authors' assumption right, namely, that a digital gap exists, but on the other hand, companies wish to learn and to use e-environment tools widely in entrepreneurship. Several sectoral experts voice a similar opinion on the existence of a gap of technologies in the society in general, as well as in entrepreneurship [4]. To reduce the gap of entrepreneurs' e-skills in entrepreneurship, the authors of the article suggest that they use the developed methodology.

3. THE METHODOLOGY

The methodology developed by the authors of the article consists of seven stages (see Table 3), as well as of an implementation and control stage.

Table 3

Methodology stages

#	Title of the stage
1	Determining the company's vision, mission, and goals.
2	Analysis of the company's stakeholders
3	Determining the company's competitiveness indicators
4	Determination and study of elements of the company's competitive advantage
5	Determining elements of the company's competitive advantage and priorities in the relevant stakeholder groups
6	Use of e-environment tools (adjustment) for each element of competitive advantage and for its increase
7	Development of a plan of action for the use of e-environment tools and increase of competitiveness and determining control mechanisms

STAGE 1: Determining the company's vision, mission, and goals

During this stage, the company must determine/specify the vision and mission. Deriving from that, the company must set the goals that it wants to achieve in the upcoming 1–3 years to increase competitiveness. The company's plan of action is prepared specifically based on these goals.

The mission is a precisely expressed justification for the company's existence [5]. As the mission and vision is a description of the company's general direction of progress, then this general direction must be formulated in specific goals, which must be achieved to implement the mission of the organization. The reasons for setting the goals are as follows: to change the mission into specific activities to be implemented, to create a reference system for evaluating the organization, to ensure strong and constant operations [6].

To set the goals, authors of the paper suggest using the acronym in English **SMART** [7, 8], which is a mnemonic indicator used in project management and strategic planning during the goal determination stage, as well as to evaluate the pre-defined goals.

Thus, the goals must be: *Specific, Measurable, Attainable, Relevant, Timely*. In scientific writings, an extended acronym with the following criteria can be seen as well – *Evaluate, Reevaluate, Satisfactory (SMARTERS)*.

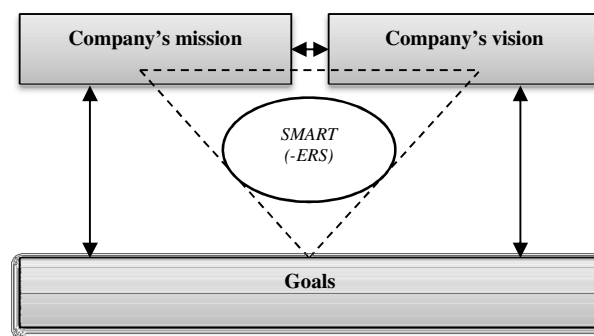


Fig. 1. Scheme of the first stage

STAGE 2: Analysis of the company's stakeholders

During this stage, the company must perform an analysis of the stakeholders. The authors of the article suggest performing an analysis using the Osterwalder business model canvas [9]. The business model canvas consists of seven stakeholder groups: *Key Partners, Key Activities, Value Proposition, Customer Relationship, Customer Segments, Key Resources, Channels*.

To evaluate a company's cooperation with each stakeholder group, the company can create a graph "competition polygon", by evaluating cooperation with each stakeholder group according to an independently developed scale of the company, for instance, from 1 (the lowest value) to 5 (the highest value).

The article authors suggest SMEs to use the SWOT matrix [10] in order to analyze each stakeholder group in detail.

By using a description and characterization of stakeholder groups, along with the SWOT matrix, the company can analyze the current condition and describe the existing business or entrepreneurship model. The SWOT matrix allows the company to structurally study their strengths and weaknesses, threats and opportunities. A company must perform the entrepreneurship analysis based on the aims proposed in the 1st stage.

STAGE 3: Determining the company's competitiveness indicators

According to the goals set during stage 1, the company can choose indicators [11]; with the help of these indicators, the results to be achieved are further evaluated and controlled. Author of the paper recommend choosing at least three indicators to cover as varied stakeholder groups as possible. A number of indicators can be selected and the frequency at which the results are measured is set. For instance, some indicators can be used for operative measurements, but others – for regular measurements, etc. Moreover, certain indicators can be selected to complement each other, if the measured result does not seem to be satisfactory for the company and additional measurements of the achieved results are necessary.

During the process, the company can change the indicators or choose other indicators, as well as

replace them according to the interim results and various adjustments in the processes. The article authors suggest using the selected indicators (see Tab. 4.1) also for evaluating the current status of the company. The initial measurements can be used as the basis for comparison with further measurements.

STAGE 4: Determining and studying the elements of a company’s competitive advantage

Upon having evaluated the existing business model and based on the set goals, a company must choose the elements of competitive advantage, with the help of which the company’s competitive advantage/-s will be created, which, for its part, will promote an increase in the company’s competitiveness. When selecting the elements, the company must be aware of resource availability and costs, priorities, market requirements, peculiarities of the entrepreneurship field, sustainability, and other factors.

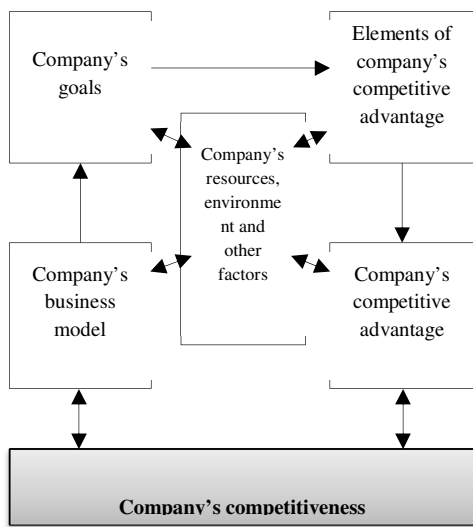


Fig. 2. Scheme of the fourth stage

The figure shows a scheme of how the elements of a company’s competitive advantage are formed, based on the company’s business model and goals, moreover, they are affected also by all of the resources available to the company, by the external and internal environment, and other influencing factors. As a result, from the set of all of these elements, the company’s competitiveness is formed.

STAGE 5: Determining the elements of a company’s competitive advantage and of a company’s priorities in the relevant stakeholder groups

After the elements of a company’s competitive advantage are selected, then, based on the analysis performed during stage 2, the company must arrange the selected elements according to the stakeholder groups. During this stage, it is important for a company to realize the priority stakeholder groups. For this purpose, the company can choose the benchmarking principles.

Author of the paper suggests that companies use also the decision making matrix – *Decision matrix*) [12,13]. The matrix helps to arrange all elements clearly and structurally and capture and analyze the overview, as well as to consider and evaluate a number of combinations.

Table 4

A company’s decision-making matrix

Elements of competitive advantage		Stakeholder groups						
		Group A		Group B		...	Group n	
Elements	Weight*	Rating**	of points**	Rating	Number of points		Rating	Number of points
Element 1								
Element 2								
...								
Element n								
Total	100							

Explanations to Table 4:

*Weight – it can be determined according to the company’s goals. The level of weight can be expressed in points or percentage, the total weight of all elements must be equal to 1 or 100 %.

** Rating – the company can create a scale of points at its discretion, for instance, from 0 to 5, where 0 – an element, which is completely irrelevant (does not fit), to 5 – an element that is perfectly relevant (fits) for the specific group.

*** The number of points is the rating multiplied by weight

For better clarity, the matrix can be turned into a graphic model (see Fig. 3).

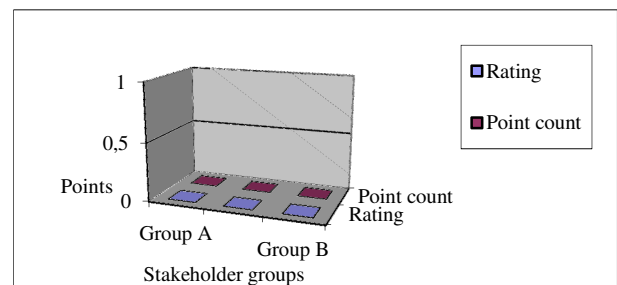


Fig. 3. A model of a company’s decision-making matrix

Upon elaborating the stage 5, the company will receive answers to a question “which elements are more important for the specific stakeholder group?” Having received specific answers, the company can plan specific e-environment tools for each element of competitive advantage.

STAGE 6: Use (adjustment) of e-environment tools for each competitive advantage element and for increasing its effectiveness

The company must select e-environment tools, which correspond to each selected element of competitive advantage. The tools and elements must be evaluated

taking into account their use in communication with the stakeholder groups. The e-environment tool referable to the specific competitiveness advantage element and communication with a particular stakeholder group is recommended to be marked with “X”. E-environment tools, which are partially referable, are marked with “O”. The columns, in which the e-tools are not referable to the stakeholder group, are left empty (see Tab. 5).

Owing to versatility and multi-functionality of e-environment tools, a company may use one and the same e-environment tool for communication with many stakeholder groups.

Explanations to Table 5:

*The element of competitive advantage – a unique product; a consumer-oriented service; continuous process of creativity; difficulty/infeasibility of replicating a product; resources; cooperation with all stakeholders, brand/company image; superiority over the competition; a stable market position, etc.

Table 5

An example of a list of using e-environment tools

Element No	For which element of competitive advantage is it intended?									
	1	2	...	n						
Name of the e-environment tool										
For communication with which stakeholder groups can it be used?	E-environment tool 1	E-environment tool 2	E-environment tool ...	E-environment tool N	E-environment tool 1	E-environment tool 2	E-environment tool ...	E-environment tool N		
	Stakeholder group 1	X		X	X		O	X	O	X
	Stakeholder group 2	X	O		X					
	Stakeholder group...		O	O	X		O	X	X	
	Stakeholder group n	X	O	X			O		X	X
Indicator numbers **	Ind. 1,4, 5	Ind. 5, 7	Ind. 12, 13	Ind. 3,4,6	Ind. 2,16	Ind. 3,4,6	Ind. 18, 25	Ind. 12,14	Ind. 3,4,6	
Measurement period	Once per month	Once per week	Once per month	Once 4 week	Once per year	Once per month	Once in 6 months	Once per month	Once per month	

The company can create a list with priority elements of competitive advantage, e-environment tools, which will serve as a tool for communication with the stakeholders. The company can choose all nine stakeholder groups or only some, with which it wants to communicate or improve communication, thereby improving its competitiveness. The company can choose stakeholders based on the performed analysis, as well as based on the set goals.

When preparing the list, the company can determine the competitive advantage elements, specific e-environment tools, which can be used for the company to communicate with specific stakeholder groups.

STAGE 7: Developing an action plan for using e-environment tools to increase competitiveness and determining control mechanisms

To prepare a plan of action, the authors using Table 5, by leaving the columns marked with “X” and “O”. The table must be supplemented with indicators and terms (see Tab. 6).

Explanations for Table 6:

*The element of competitive advantage – the same as mentioned in stage 6.

** Indicator numbers – “non-financial indicators for measuring a company’s competitiveness”, mentioned in stage 3.

Table 6

Sample plan of action

Element No	For which competitive advantage element* is it intended?									
	1	2	...	Element n						
Name of the e-environment tool										
For communication with which stakeholder groups can it be used?	E-environment tool 1	E-environment tool 2	E-environment tool N	E-environment tool 2	E-environment tool N	E-environment tool 1	E-environment tool ...	E-environment tool 1	E-environment tool ...	
	Stakeholder group 1	X		X	X		O	X	O	X
	Stakeholder group 2	X	O		X					
	Stakeholder group...		O	O	X		O	X	X	
	Stakeholder group n	X	O	X			O	X		X
Indicator numbers **	Ind. 1,4, 5	Ind. 5, 7	Ind. 12, 13	Ind. 3,4,6	Ind. 2,16	Ind. 3,4,6	Ind. 18, 25	Ind. 12,14	Ind. 3,4,6	
Measurement period	Once per month	Once per week	Once per month	Once 4 week	Once per year	Once per month	Once in 6 months	Once per month	Once per month	

Besides the information indicated in Table 6, a company’s plan of action must include also the following information: the time of activity of the plan; the persons in charge of fulfillment of the plan; criteria confirming fulfillment of a stage/plan; fulfillment deadlines; report regularity and deadlines; report form; procedure of introducing adjustments, etc. [14] The action plan must be known to all responsible employees of the company, involved in fulfillment of the plan. The company must provide employees with tools of timely information exchange and update (IT provision, access to information resources, etc.). The employees must be provided with time, technical and other resources necessary for fulfilling the plan [15]. Management must create control

mechanisms for fulfilling the plan. The mechanisms must include types of how fulfillment of stages of the plan at a proper quality is controlled, by establishing criteria, according to which the fulfillment of each stage is evaluated. The employee, who is in charge of fulfillment of the plan as a whole, must be able to supervise the plan altogether and each of its elements. A company can apply the methodology prepared by the authors independently or by involving a consultant.

CONCLUSIONS

Based on the authors' performed study of the use of e-environment tools by Latvian companies, it can be concluded that overall companies are using e-environment tools. The analysis points to deficiency of information about the use of e-environment in entrepreneurship and poor knowledge of entrepreneurs about the use of e-environment tools in entrepreneurship. Latvian SMEs realize that e-environment tools can be used for substituting / supplementing the insufficient or lacking resources. The advantage of e-environment tools is their use without investing extensive financial resources, because the main necessary resource is time and human capital. The study shows that companies have a low level of knowledge about e-environment tools, possibilities offered by them, as well as about their application for entrepreneurship needs. Companies' willingness to gain knowledge and to learn how to use e-environment tools for entrepreneurship needs is a positive trend; it could be a signal for education establishments of various levels with regard to introducing new programs and improving the existing training programs relevant for the market demand, etc. A company can independently implement the methodology proposed by the authors or it can engage a consultant.

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