

# THE DEVELOPMENT OF THE EVALUATION SYSTEM OF FACTORS, INFLUENCING ON THE ORGANIZATION FOR THE PREVENTION OF RISKS OF ITS ACTIVITY IN THE MARKET IN ANY FIELD OF ACTIVITY, USING PEST – ANALYSIS

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## Annotation

*In the context of the global changes in the world community, occurs the transformation of the entire world community in various areas of activity as a whole and in the development of the business in particular. Threats and risks, which accompany the business process throughout the entire activity of enterprises that makes enterprise to focus on the prevention of risks, using a variety of analytical methods. One of such methods is the evaluation of the influence of factors of the external environment and it is: political, economic, social and technological factors, using PEST matrix. For the successful activity of the enterprise and its prospective development in the market, the carrying out of PEST – analysis should become a constant action and the relevance of the topic of this research is determined by this.*

*The article presents the different configurations of the system of evaluation factors, by priority and importance, as well as examples of factors with a detailed description of their content are provided, which are used in this research.*

*The article has the theoretical and practical values. The uniqueness of the represented method lies in the fact that it can be used not only in the field of the research object, mentioned as an example, but for any object, implementing its activity in any field of activity. The evaluation of the external factors that have the greatest impact on the object, occurs in several stages, including expert evaluation that determines the objectivity of obtained results of the analysis, an intermediate stage of the mathematical calculations – is finding of the arithmetic mean value, which is reflected in the summary table in the grouping criteria: the influence of each of the factor of the matrix – PEST. The novelty of the paper lies in the provision of the final results in the visual form, in the form of radar diagram.*

**Key words:** PEST – analysis, external environment, marketing, political, economic, social and technological factors, matrix.

## Introduction

At the present stage, the entrepreneurship uses different marketing and analytical mechanisms for the evaluation of the activity of its enterprise. The most popular method is the evaluation of factors that have a special influence on the enterprise outside. Such factors are: the factors of the external environment, including: political, economic, social, technological factors. The content of each factor includes different criteria of evaluation in the areas of the external environment, thus, highlighting the most actively acting and which have the most serious impact on the business environment of the enterprise. In addition, the criteria of evaluation, obtained, as a result of the analysis, represented in the form of the PEST matrix and in the form of a diagram that allows visually evaluating the picture as a whole, to develop the mechanisms of the prospective development and measures for smoothing and preventing risks in the future. The construction of a model, which can be used in any field of activity and any enterprise, are the solutions of the problem by estimating the influence the external factors.

**The goal of the article** is to suggest the system of evaluation of factors, which have an influence on the organization for the prevention of risks of its activity in the market in any field of activity.

## The analysis of researches and publications

This topic in the form of scientific papers is not properly represented according to their number. Researchers prefer different forms of PEST – analysis, for example, PESTLE. In its turn, scientific figures, analytical departments and other departments, which are engaged in analytics, carry out the analysis of the factors of the external environment within the frameworks of PESTLE analysis. For example, in the database EBSCOhost the reports of the obtained results of PESTLE analysis are represented by such countries as: UK (PESTLE Analysis of the US, UK, and EU 2016 - Research and Markets, Research and Markets, Business Wire (English). 10/11/2016), US (Country Report, Argentina Country Profile, PESTLE ANALYSIS, Jan2015, p13-32. 20p.), Argentina (Country Report, Sweden Country Profile, PESTLE ANALYSIS, Dec2014, p14-45. 32p.), Sweden (Country Report, South Africa Country Profile,

PESTLE ANALYSIS, Dec2014, p14-31. 18p), South Africa (Country Report, Singapore Country Profile, PESTLE ANALYSIS, Jan2015, p13-28. 16p.), Singapore (PESTLE Analysis of the UAE 2015 - Research and Markets, Research and Markets, Regional Business News), UAE (PESTLE Analysis of Canada 2016, Newspaper Source, M2PressWIRE. 07/27/2016.), Canada (PESTLE Analysis of Saudi Arabia 2016, Newspaper Source, M2PressWIRE. 07/25/2016), Saudi Arabia (PESTLE Analysis of the Philippines 2016, Newspaper Source, M2PressWIRE. 07/25/2016), Philippines (PESTLE ANALYSIS, Brazil Country Profile, Country Report 2012, p13-35. 23p.), Brazil (PESTLE ANALYSIS, Turkey Country Profile. 2008, p12-26. 15p. 6 Charts, 1 Graph), Turkey and others. But, in the database Scopus represents the scientific paper of T. Golubkova on a topic of use of the assessment of impact of factors of PESTLE in the field of culture (Golubkova T., Influence of macro-environment factors on the marketing mix development in the field of culture of the Baltic region, Экономический Часопис – XXI, ISSN: 1728-6220, 3-4(1), 2014). In its turn, Athanasios Kolios and George Read note the importance of the use of the PESTLE model in the analysis of the external factors of the country, based on a particular field of entrepreneurial activity (Athanasios Kolios and George Read, A Political, Economic, Social, Technology, Legal and Environmental (PESTLE) Approach for Risk Identification of the Tidal Industry in the United Kingdom, Energies (19961073). Oct2013, Vol. 6 Issue 10, p5023-5045. 23p.).

The carried out analysis of the available sources showed the relevance of the research of this topic and the development the effective method of evaluation of factors, which have the influence on the organizations, suitable for all enterprises and different fields.

**Material and methods**  
**PEST analysis brief**

The earliest know reference to tools and techniques for ‘Scanning the Business Environment’ appears to be by Francis J. Aguilar (1967) who discusses ‘ETPS’ – a mnemonic for the four sectors of his taxonomy of the environment: Economic, Technical, Political, and Social. Some time after its publication, Arnold Brown for the Institute of Life Insurance (in the US) reorganized it as ‘STEP’ (Strategic Trend Evaluation Process) as a way to organise the results of his environmental scanning.

Thereafter, this ‘macro external environment analysis’, or ‘environmental scanning for change’, was modified yet again to become a so-called STEPE analysis (the Social, Technical, Economic, Political, and Ecological taxonomies).

In the 1980s, several other authors including Fahey, Narayanan, Morrison, Renfro, Boucher, Mecca and Porter included variations of the taxonomy classifications in a variety of orders: PEST, PESTLE, STEEPLE etc. Why the slightly negative connotations of PEST have proven to be more popular than STEP is not known. There is no implied order or priority in any of the formats.

Some purists claim that STEP or PEST still contain headings which are appropriate for all situations, other claim that the additional breakdown of some factors to help individuals and teams undertaking an environmental scan (Frederic P Miller, Agnes F Vandome, John McBrewster, (2011). Pest Analysis, VDM Publishing, URL: <http://www.free-management-ebooks.com/dldebk-pdf/fme-pestle-analysis.pdf>).

Quite who and when added what elements to the mnemonic is a mystery, but what we do know is that the actual order and words contained are common to certain parts of the world and streams of academic study. The term **PESTLE** is particularly popular on HR and introductory marketing courses in the UK. Others favour PEST, STEP, STEEPLE or others (see pic.1).

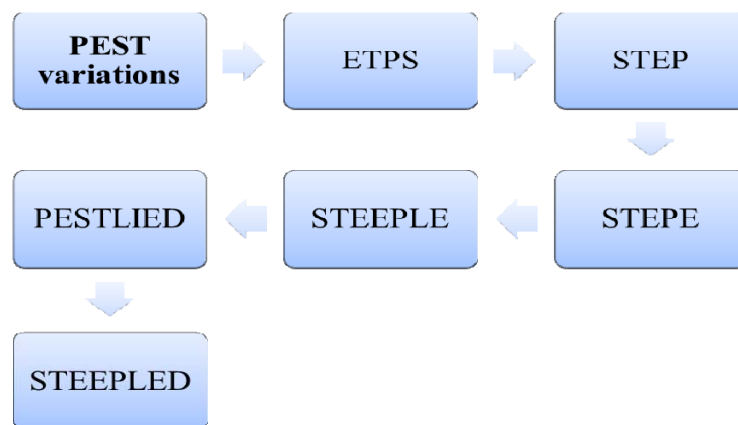


Fig. 1 PEST variations (the development of the authors)

PEST – Political, Economic, Social and Technological  
 ETPS – Economic, Technical, Political and Social  
 STEP – Strategic Trend Evaluation Process  
 STEPE – Social, Technological, Economic, Political and Ecological  
 STEEPLE – Social, Technological, Economic, Ethical, Political, Legal and Environmental  
 PESTLIED – Political, Economic, Social, Technological, Legal, International, Environmental and Demographic.<sup>1</sup>

Let's give examples of the content of the factors, which are considered during the analysis.

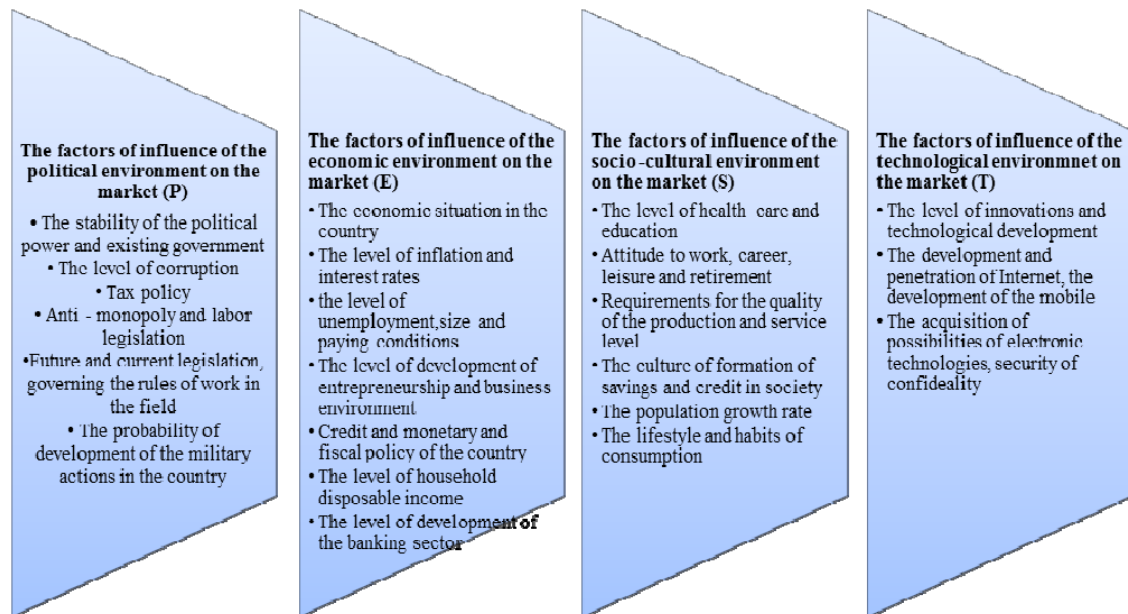


Fig. 2. The examples of factors, which are usually considered during the analysis (the development of the authors).

The represented theoretical aspects of carrying out the PEST – analysis in general, was developed on the basis of the carried out a theoretical analysis of the theoretical aspects of the PEST analysis earlier, as well as has allowed proceeding to the practical part of the paper and show the use of the analysis, using a specific example. The object of the research was the commercial organization: student complex, the location of which is in Riga city, the Republic of Latvia.

The mission of the student complex is the improvement of the integration of foreign students, studying in the country, as a result of the international academic mobility.

### Results and discussion

#### The practical use of the PEST analysis

Having determined the key factors of influence on the organization – the student complex on the scheme of PEST, the estimation of the degree of influence of each factor on the activity and development of the organization on 3 – point scale has been given. The three – dimensional scale is represented in the table 1.

Table 1

The scale of assessment of the degree of influence of factors on the activity of the organization (The development of the authors)

Evaluation/Scores	The assessment of the influence of the factors
1	- the influence of the factor is small, any change of the factor practically has no influence on the activity of the mix;
2	- only significant change of the factor influences on the activity of the mix;
3	- the influence of the factor is high, any fluctuations cause the significant changes in the activity of the mix

The degree of influence on the three – dimensional scale is replaced by carrying out of probability of change of each factor individually, a group of experts, who has a direct relationship to the competence of the politics, economics, and sociology. At that, the mandatory condition is the fact that to the expert review are involved both specialists – practitioners, working in the field of research and the representatives of the science.

The estimation of the probability of change of the factors and probability of fluctuations is evaluated on a 5 – point scale, where 1 means the minimum probability of change of the factor of the external environment, but 5 – the maximum probability. But, the intermediate points of the scale of the admissibility of probability close to the highest and lowest scores, respectively.

The real significance of each factor separately has allowed evaluating to what extent the mix should pay attention and control the factor of change of the external environment. The calculation was made, as the probability of change of the factor, weighted on the power of influence of this factor on the activity of the mix.

After deriving the estimates by the expert group from their total amount, the average simple arithmetic value is calculated and the estimate on each row of factor, adjusted for the weight in the last group of the homogenous criterion is given (See. Table 2).

It should be noted that the higher is the real importance of the factor of criterion “The evaluation adjusted for weight”, the more attention and efforts should be given to the organization to reduce the degree of risk and negative influence of the factor on the business. The results of the described calculation are visually represented in the table 2.

Table 2

The estimation of the real significance of the PEST factors  
(The development of the authors)

The description of the factor	The influence of the factor	Expert evaluation					The average estimate	The evaluation adjusted for weight
		I	II	III	IV	V		
<b>POLITICAL FACTORS (P)</b>								
The stability of the political power and existing government	2	5	5	4	5	4	4.6	<b>0.11</b>
The level of corruption	2	4	3	5	4	5	4.2	<b>0.10</b>
Tax policy	3	2	1	3	1	2	1.8	<b>0.06</b>
Anti – monopoly and labor legislation	2	2	1	3	2	3	2.2	<b>0.05</b>
Future and current legislation, governing the rules of work in the field	3	4	5	3	3	4	3.8	<b>0.14</b>
The probability of development of the military actions in the country	2	5	4	5	5	4	4.6	<b>0.11</b>
<b>ECONOMIC FACTORS (E)</b>								
The economic situation in the country	3	5	4	5	5	4	4.6	<b>0.16</b>
The level of inflation and interest rates	1	5	4	4	3	4	4.0	<b>0.05</b>
The level of unemployment, size and paying conditions	2	4	3	4	5	3	3.8	<b>0.09</b>
The level of development of the entrepreneurship and business environment	2	5	4	4	5	5	4.6	<b>0.11</b>
The credit and monetary and fiscal policy of the	1	5	4	5	5	5	4.8	<b>0.06</b>
The level of household disposable income	2	5	4	5	4	5	4.6	<b>0.11</b>
The level of development of the banking sector	1	3	4	3	4	4	3.6	<b>0.04</b>
<b>SOCIO – CULTURAL FACTORS (S)</b>								
The level of health care and education	1	3	2	3	2	2	2.4	<b>0.03</b>
Attitude to work, career, leisure and retirement	1	4	3	5	4	4	4.0	<b>0.05</b>
Requirements for the quality of the production and service level	3	5	5	5	5	4	4.8	<b>0.17</b>
The culture of formation of savings and credit in society	2	5	4	4	5	5	4.6	<b>0.11</b>
The population growth rate	2	4	3	4	4	3	3.6	<b>0.09</b>
The lifestyle and habits of consumption	1	4	3	4	3	3	3.4	<b>0.04</b>
<b>TECHNOLOGICAL FACTORS (T)</b>								

The description of the factor	The influence of the factor	Expert evaluation					The average estimate	The evaluation adjusted for weight
		I	II	III	IV	V		
The level of innovations and technological development	1	2	1	3	1	2	1.8	<b>0.02</b>
The development and penetration of Internet, the development of the mobile devices	1	4	5	5	4	5	4.6	<b>0.05</b>
The acquisition of possibilities of electronic technologies, security of confidentiality	2	3	4	5	4	4	4.0	<b>0.09</b>
<b>TOTAL</b>							84.4	

Further, the obtained results are reflected in the summary table in the form of a matrix (See. Table 3).

Table 3

The summary table of the PEST – analysis  
(The development of the authors)

POLITICAL		ECONOMICAL	
<i>Factor</i>	<i>Weight</i>	<i>Factor</i>	<i>Weight</i>
Future and current legislation, governing the rules of work in the field	0.14	The economic situation in the country	0.16
The stability of the political power and existing government	0.11	The level of development of the entrepreneurship and business environment	0.11
The probability of development of the military actions in the country	0.11	The level of household disposable income	0.11
The level of corruption	0.10	The level of unemployment, size and paying conditions	0.09
Tax policy	0.06	Credit and monetary and fiscal policy of the country	0.06
Anti – monopoly and labor legislation	0.05	The level of influence and interest rates	0.05
		The level of development of the banking sector	0.04
SOCIO - CULTURAL		TECHNOLOGICAL	
<i>Factor</i>	<i>Weight</i>	<i>Factor</i>	<i>Weight</i>
Requirements for the quality of the production and service level	0.17	The acquisition of possibilities of electronic technologies, security of confidentiality	0.09
The culture of formation of savings and credit in society	0.11	The development and penetration of Internet, the development of the mobile devices	0.05
The population growth rate	0.09	The level of innovations and technological development	0.02
Attitude to work, career, leisure and retirement	0.05		
Lifestyle and habits of consumption	0.04		
The level of health care and education	0.03		

After carrying out the PEST – analysis, the factors of the external environment have been revealed, which have the greatest influence on the student complex. Analyzing the visually represented results, it was noted that the taxation policy in Latvia doesn't contribute to the improvement of the business processes and the development of the business as a whole (See, the political factor in the matrix, table 3). In addition, the ongoing discussion in the Latvian mass media on the topic of increase of tax rates, strengthens the degree of risk of entrepreneurial activity in particular. Explaining the fears, it may be noted that the increase of the existing taxes and introduction of new ones won't contribute to the development of the financially intensive activities, requiring the investment of funds in the prospective development. Besides that the change of the interest rate in the direction of increase will lead to the increase of the cost of the product, offered by the object of the research that will lead to the tightening of the competitive struggle in the market and the expansion of the measures, including the financial ones, on the conquer of the target consumer, who is able to consume the product at the new – high price.

Along with this, the confidence in the prospect of development of the entrepreneurial activity as a whole, doesn't also give the fact that between the political parties, operating in Latvia an intense competition is observed, but this, in its turn, provokes to make unpopular decisions and increases the degree of risk of conducting business. Therefore, the obtained results of the carrying out PEST - analysis allow evaluating all risks, which may face organization, as in our case, in the introduced example. In addition, the PEST – analysis allows evaluating the degree of the possible influence on the reduction of own risks in the created conditions, but not on the negative changes in the external environment, determined by any factor.

In conclusion, the result of the carried out PEST – analysis, for the most visual perception was made the radar chart (See. Figure 3).

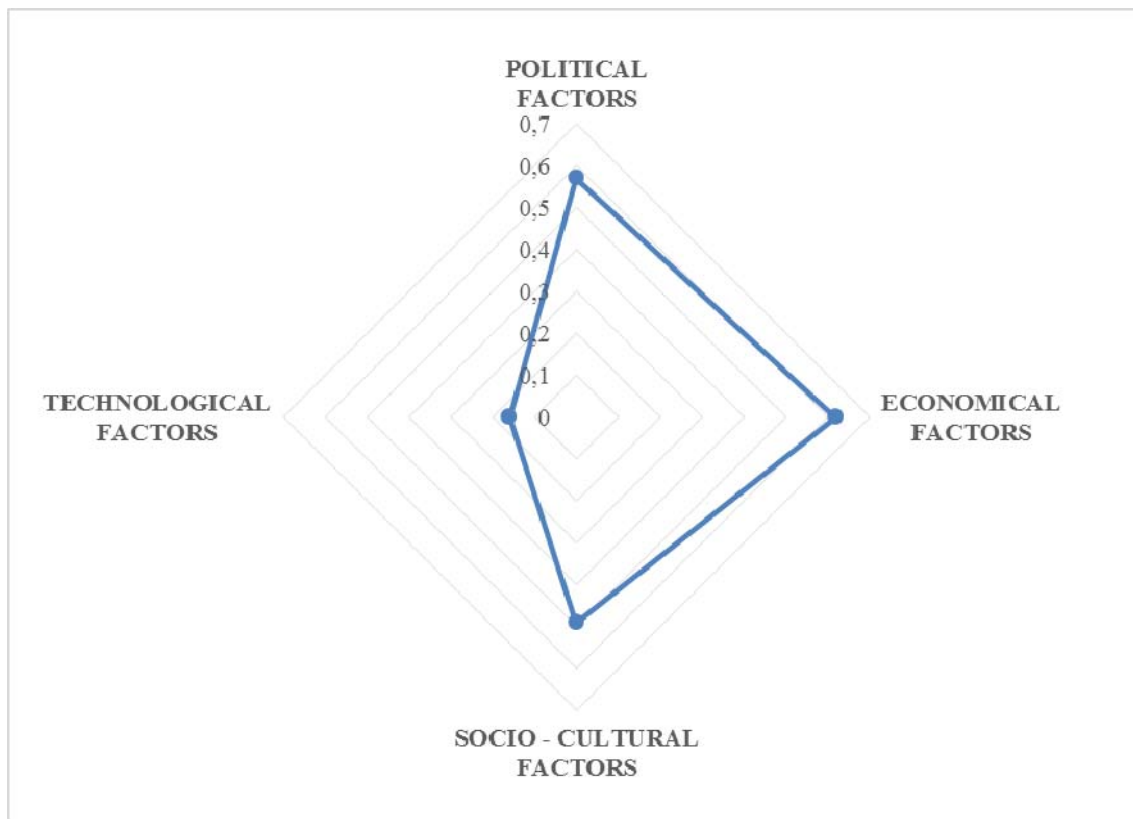


Fig. 3. The results of the PEST – analysis (the development of the authors)

From the represented figure, the especially bright, in the form of influence is represented the already marked political and economic factors and only technological factor, which in its nature and content doesn't represent a specific interest for the object of the research, but can be relevant for the analysis, another organization in another field. Therefore, summarizing, it may be noted that the principle of carrying out of the PEST – analysis, by analogy with the introduced example, or on its basis, can be used in other fields and for other organizations.

### Conclusions

- The analysis of the methodological and theoretical basis allowed determining the method of assessment of the influence of the external factors – PEST – analysis;
- The analysis of the used in the theory variations of configuration of factors of external environment (political, economic, social, technological) allowed representing the content of the system of its evaluation on the priorities and evaluation of degree of importance;
- The represented system of evaluation of priority and importance allowed giving examples of factors with a detailed description of their content and to mark out the configuration of use of the system of PEST, required for carrying out the research, using a specific example;
- The commercial organization – the student complex, which is in Riga city, in the Republic of Latvia has become an object of the research and example of carrying out the assessment of the impact of the factors on the activity and prospects of its development, on the basis of PEST – analysis;
- The evaluation of factors of influence was carried out on the stage principle, including:
  - a) the evaluation of the influence of factors – the finding of the weight of influence on the three –

dimensional scale; b) the creation of the expert group of specialists, evaluating the factors of influencing on a 5 – point system and their evaluation; c) The calculation of the arithmetical average of the simple value of the total overall estimate given by experts; d) The estimates, adjusted for the weight of finding. The similar approach with the observance of the principle of stage will allow easily adapting the introduced example in another field and in another enterprise;

- The final results of the estimate, represented in the form of a matrix – PEST give the objective information, concerning the degree of dependence of the organization on external factors, but the representation of the results, made in the form of a radar diagram allows evaluating this degree of dependence, visually.

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