



*Faculty of Economics, University of Niš*  
*18 October 2018*

**49<sup>th</sup> International Scientific Conference**  
**QUANTITATIVE AND QUALITATIVE**  
**ANALYSIS IN ECONOMICS**

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## **APPLICATION OF THE PEST ANALYSIS FOR STRATEGIC PLANNING OF REGIONAL DEVELOPMENT**

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***Abstract:** The report presents the capabilities of the PEST analysis as a part of the methodological tools for exploring the environment of the region. The specific example analyzes the main group of factors influencing the development of the region and its constituent territorial units. The report also critically evaluates the advantages and weaknesses of the qualitative analysis method and its use in the process of strategic planning of regional development.*

***Keywords:** external environment, PEST analysis, strategic regional planning.*

### **1. Introduction**

The main task of strategic regional planning is to clarify the actions that need to be taken to progressively develop a region in the future. This means setting targets and tasks tailored to the needs and conditions of the environment. The study of the environment implies the use of a variety of quantitative and qualitative methods for regional analysis, including PEST<sup>1</sup> analysis with appropriate application.

### **2. Theoretical and methodological features of PEST analysis**

The analysis of the external macroeconomic environment, PEST analysis, first introduced by Francis J. Aguilar (1967), represents an acronym for indirect factors - political, economic, social, and technological. PEST analysis is a tool for analyzing trends, which is used to identify the overall picture and the state of the environment in which an object develops, and can be useful in the study of factors influencing the development of territorial communities of different ranks and scale.

The original PEST analysis model studies the external environment by examining trends for development based on the four sets of factors: political, economic, social and technological. The essence of this analysis focuses on the assessment of the variables, the

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<sup>1</sup> PEST - analysis of political, economic, social and technological factors and trends

macroeconomic environment: the political context that can create a specific functioning of the economic environment, changing the economic activity of the region, influencing social trends and changing the dynamics of the transfer of innovations and technologies in the surveyed territory (Shishmanova, 2010).

The theory examines an extended form of this analysis with the abbreviation PESTEL or PESTLE (Cadle at al., 2010; Rothaermel, 2012; Johnson, 2008; Team FME, 2013). Through PESTLE analysis, besides the factors that Agular (1967) systemized, legal and environmental factors are included within the scope of the model. This analysis gives a wider view of the spectrum of external influences, but it also focuses on the study of the external environment, and there are some limitations for a more in-depth analysis of the problem areas and for finding adequate solutions accordingly.

### **3. Using PESTLE analysis in the study of the influence of environment on the development of the region**

The methodology of the analysis involves the implementation of four consecutive stages. In the first stage the external factors are identified, the so-called “scanning” the environment to promptly reveal indicators or signals for potential changes. Scanning should enable information about future opportunities and threats that affect the development of the region or municipality to varying degrees of progress or regression.

In the second stage, monitoring is carried out - it involves the tracking of a specific change of the environment over time. The goal is to track evolution in the development of relevant factors, to obtain sufficient data to help governments formulate their attitude towards the weaknesses captured during the scanning. Thus, at the monitoring stage, data searches become more focused and more systematic than during the scan. Here are the trends of the factors.

The third stage can be called forecasting. The purpose of this stage is to provide the possible parameters of the scale, direction, speed and intensity of changes in the external environment. The scale shows the nature of the phenomena and the consequences for the municipality. The direction shows the vector of the phenomenon i.e. increasing/improving or reducing/aggravating will result in corresponding consequences. The speed describes how fast or slow the changes will be. The extrapolation method has, tracking development trends, which will remain relatively unchanged in the future, has been used.

The following environmental factors were mapped out by groups of environments (first stage) according to the PESTLE analysis methodology:

- Political environment - political stability or instability and its impact on the work of municipalities, financial relations between the state and the municipalities and degree of financial decentralization; developing forms of direct democracy and civil society; the availability of international and national programs to assist municipalities; relations with state, branch, regional and others institutions, partnering with the municipality (court, prosecution, police, banks, etc.), EU membership.
- Economic environment - state of the macroeconomic environment - growth of GDP, investment activity, inflation; investment activity, employment and unemployment rate, employment and unemployment rate - in the country and region; level of employment and

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unemployment, level of income in the country and the region; external economic environment; profitability and labor productivity of enterprises in the country and the region; state of the business structures; development of agriculture and extractive industry; state policy to assist farmers; development of the industry; state policy for the development of SMEs in industry; development of services. state policy on the development of the sectors in the tertiary sector; natural-geographic potential for tourism development; natural resources conducive to industrial development; soil and climatic conditions for the development of agriculture; transport accessibility and infrastructure; meliorative facilities.

- Socio-cultural environment - educational system - normative basis, state, success of reforms, infrastructure; the health system - the legal basis, the state, the success of the reforms; development of public services - quality, accessibility, scope, infrastructure; quality of the residential environment - housing provision, housing stock condition; quality of the working environment - availability of normative regulatory mechanisms; presence or absence of ethnic tensions and conflicts in the country and the region; state policies: for ethnic tolerance; gender equality; development of forms of recreation, sports and tourism; age structure of the population; natural growth; migration processes; urbanization of settlements; quality of legislation in the field of culture; state policy in the field of culture - support, financing, investments; the cultural level of the population, the degree of satisfaction of the cultural needs.

- Technological environment - new production technologies; new information technologies; vertical and horizontal technology transfer; application of R&D and transfer of know-how; state of the communications infrastructure - post, telecommunication, radio and television networks.

- Legal environment - national legislation in the field of local self-government and its impact on the activities of municipalities; international legislation and its impact on the activities of municipalities; regulatory and legal possibilities for implementing regional policy.

- Ecological environment - national policy in the field of ecology and its impact on the state of municipalities; availability and accessibility of national and international programs for financing municipal projects in the field of ecology; lack of inter-municipal pollution; degree of public support for compliance with environmental standards; state of the water supply and sewerage network; energy networks - availability and condition, energy efficiency and use of renewable energy sources.

In the second stage, it was appropriate to use the available statistical information of the National Statistical Institute in the target period; data from surveys of institutions working on regional development issues such as: Employment Agency, Institute for Market Economics, Open Society Institute, information from national and regional strategic documents such as: National Regional Development Strategy, Regional Development Plans, Regional Development Strategies; data from national sectoral strategies for the development of economic sectors, gender equality and strategy for supporting the development of civil society organizations in the Republic of Bulgaria.

During the third stage, forecasting extrapolated the current data and it was provisionally accepted that the trend of the data for the survey period would be maintained. This made it possible to predict the possible parameters of the scale, direction, speed and intensity of changes in the external environment. Conditional factors were divided into two more categories with very strong/weak influence or strong and low influence.

#### 4. Summary results of the PESTLE analysis

In the fourth stage the factors for the studied trends and the extrapolation of the data for the future period are assessed, their degree of influence on the development of the region. The identified factors are assessed against their impact. The following sample scale is used: (+2 = strong positive influence (factors with strong positive trends for the surveyed time period); +1 = positive impact (factors with positive trends for the surveyed time period); -1 = negative impact (factors with negative trends for the surveyed time period); and -2 = strong negative impact (factors with strongly negative trends for the time period survey).

On the basis of the analysis carried out in the previous stages, the results are summarized and summarized in Table 1.

**Table 1. External factors influencing the development of the region/ the municipality (PESTLE analysis)**

Type of environment	Name of the factor	Evaluation
Political environment	Political stability or instability and its impact on the work of municipalities	-2
	Financial relations between the state and the municipalities and degree of financial decentralization	-1
	Developing forms of direct democracy and civil society	+1
	Existence of international and national programs to support municipalities	+1
	Relations with state, branch, regional and other; institutions that partner with the municipality (court, prosecution, police, banks, etc.)	+1
	Membership in the European Union	+2
Economic environment	State of the macroeconomic environment - GDP growth, investment activity, inflation	-1
	Investment activity in the country and the region	-1
	Level of employment and unemployment in the country and the region	-1
	Income level in the country and the region	-2
	External economic environment	-1
	Profitability and labor productivity of enterprises in the country and the region	-1
	State of the business structures - economic status, stability, attitude towards local authorities, intentions for long-term residence in the region	-1
	Development of agriculture and extractive industry. State Policy for Supporting Farmers	-1
	Industry development. State policy for the development of small and medium enterprises in the industry	-1
	Service development. State policy for the development of the sectors in the tertiary sector.	-1
	Natural-geographic potential for tourism development	+1
	Natural resources favoring the development of industry	+1
	Soil-climatic conditions for the development of agriculture	+2
	Transport accessibility and infrastructure - state of the national and regional transport arteries. Capacity and usability	+1
	Meliorative equipment - availability and condition	-2

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Socio-cultural environment	Educational system - normative basis, state, success of reforms, infrastructure	-1
	System of healthcare - normative basis, state, success of reforms	-1
	Development of public services - quality, accessibility, scope, infrastructure	-1
	Quality of the living environment - housing provision, housing stock condition	+1
	Quality of the working environment - existence of normative regulatory mechanisms	-1
	Existence or absence of ethnic tensions and conflicts in the country and the region. State policy on ethnic tolerance	+1
	State Policy on Gender Equality	+1
	State policy for the development of forms of recreation, sports and tourism	-1
	Age structure of the population	-1
	Natural growth	-1
	Migration processes	-1
	Urbanization of the settlements and its impact on the development of the region and the municipality	+1
	Quality of legislation in the field of culture	+1
	State policy in the field of culture - support, financing, investments	-1
Cultural level of the population, degree of satisfaction of cultural needs	+1	
Technological environment	New production technologies	-2
	New information technologies	-2
	Vertical and horizontal technology transfer. Implementation of R&D and transfer of know-how	-2
	State of the communication infrastructure - posts, telecommunications, radio and TV networks	+1
Legal environment	National legislation in the field of local self-government and its impact on the activities of municipalities	+1
	International legislation and its impact on the activities of municipalities	+2
	Legal and regulatory possibilities for the implementation of regional policy by the municipality	+1
Environmental environment	National policy in the field of ecology and its impact on the state of municipalities - functions of bodies, monitoring and control systems, effectiveness of measures	-1
	Availability and accessibility of national and international programs for financing municipal projects in the field of ecology	+1
	Nema meduregionalnog zagađenja	+2
	Degree of public support for compliance with environmental standards	-1
	State of the water supply and sewerage network	-1
	Energy networks - availability and condition, energy efficiency and use of renewable energy sources	+1

*Source:* Adapted by Report with results of studies, researches and analyzes in connection with the development of a municipal development plan for the new market for the period 2014-2020 (2013). Project "Improving the work of the municipal administration Novi Pazar for realization of effective policies, quality service for the citizens and businesses and creating conditions for sustainable economic growth and employment". Contract No. 13-13-122/01.11.2013

As a result of monitoring of the tendencies of the derived factors towards the indicators and the indices, two types of factors are outlined: with positive and negative trends for the studied period of time.

The conclusions that can be made with regard to the grouping of the environmental factors that determine the positive or negative impact on the development trends come as follows:

- *key factors with positive trends* for the target time period: developing forms of direct democracy and civil society; the availability of international and national programs to assist municipalities; relations with state, branch, regional and other. institutions that partner with the municipality (court, prosecution, police, banks, etc.); EU membership; natural-geographic potential for tourism development; natural resources conducive to industrial development; soil and climatic conditions for the development of agriculture; transport accessibility and infrastructure; ethnic tolerance; gender equality; national legislation in the field of local self-government; regulatory and legal opportunities for implementing regional policy; accessibility of national and international programs for financing of municipal projects in the field of ecology etc.
- *key factors with negative trends* for the target time period: state of the macroeconomic environment - GDP growth, investment activity, inflation; investment activity, employment and unemployment levels, income levels in the country and region; external economic environment; profitability and labor productivity of enterprises in the region; state of the business structures - stability, attitude towards the local authorities, intentions for long-term residence in the area; development of agriculture; inadequate state sectoral policies - to assist farmers; supporting small and medium-sized enterprises in industry; development of services; for sectors in the tertiary sector; educational system; health care system; development of public services; quality of the working environment - regulatory mechanisms; age structure of the population; natural growth; migration processes; new production technologies; new information technologies; vertical and horizontal technology transfer, etc.

### 3. Conclusion

PEST analysis does not require significant resources and as a conceptual model, it is a useful research tool for exploring and analyzing the regional environment that is the subject of strategic planning. Its methodology allows it to be implemented through a variety of qualitative analysis methods that adapt to the specifics of the region.

Through PESTLE analysis, besides the factors that Aguilar (1967) systemized, legal and environmental factors are included within the scope of the model. This analysis gives a broader view of the spectrum of external influences, but also focuses on the study of the business environment itself (nationally, by region, period, etc.) rather than analyzing problematic areas and offering adequate solutions.

It should be specified for both models that the results of the analyses performed are highly informative. Prepared for different periods in one location, they can outline dynamics and trends for development. Their added value is to inform and support decision-making in the future development strategy and thus participate in the process of strategic regional planning. There are no quantitative measures to allow direct comparability of results and numerical estimates.

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### **PRIMENA PEST ANALIZE ZA STRATEGIJSKO PLANIRANJE REGIONALNOG RAZVOJA**

**Rezime:** *Izveštaj predstavlja sposobnosti analize PEST-a kao deo metodoloških alata za istraživanje okruženja u regionu. Sa konkretnim primerom analizirane su glavne grupe faktora koji utiču na razvoj regiona i njenih konstitutivnih teritorijalnih jedinica. Prednosti i slabosti ovog metoda kvalitativne analize kritički su ocenjene u njegovoj upotrebi u procesu strateškog planiranja regionalnog razvoja.*

**Ključne reči:** *spoljno okruženje, PEST analiza, strateško regionalno planiranje.*