

force, lower quality and health standards are used here.

Easily accessible and cheap products are accompanied by low culture of using goods, which manifests in insufficient care and carefulness. If these are products of low service life, then they quickly turn into waste. It is particularly visible in developed societies (for example in the United States), and even more in countries quickly developing (for example in China). In those societies we meet two types of barriers restricting excessive or quickly increasing consumption. These are being used to increasing, common and very much waste generating consumption in developed countries and rejecting any attempts of restricting the increasing consumption perceived as endangering the improvement of the quality of life and fulfilling the needs (for example in China) at the desired level. This desired level is set by societies treated as consumption models (the imitation effect)

The following factor of excessive amount of waste is inappropriate waste management. It is characterized for example by:

- the disposal of majority of waste;
- low level of waste management;
- insufficient or no recycling systems;
- the lack of impulses for self-perfection of the system of the disposal and use of waste;
- low participation of people in the waste management;
- frequent occurrence of NIMBY¹ syndrome.

The last determinant of the excessive amount of waste is insufficient responsibility, especially the economic one, of the final waste manufacturers, that is the consumer of goods. Many national systems of waste management does not make use of any instruments affecting the entities generating waste or apply solutions which are not effective enough (for example too low fees).

References

1. Becla A., Czaja S., Zielińska A., Good practice in waste management - a manual, The Foundation - the Centre of Supporting Entrepreneurship, Zgorzelec 2012, Copied material

¹ NIMBY syndrome or „not in my yard”, describes the attitude of people, who express their objections against some investments in their neighbourhood

COORDINATED STRATEGIES SCENARIO MODELING OF FRONTIER REGIONS DEVELOPMENT

The problem of regional management effectiveness increasing is defined as one of the key aims of The State Strategy of Regional Development up to 2020 (approved by the decision of the Cabinet of Ministry of Ukraine from the 6th of August 2014 #385). Reaching the aim means the improvement of the strategy planning of regional development system on the state and regional levels, especially by the implementation of effective information support for defining problems of regional development, having the analysis and modeling the ways of solving as the basis of development and implementing reasonable managing decisions.

Other priority of the national regional development is the State Strategy that stipulates for territorial social-economic integration and spatial development, in particular by means of realization frontier territories development.

Mentioned above priorities and the crucial actuality of the state management mechanisms improvement on the middle level, have defined the main aspects of this investigation, aimed at the ascertaining the tendencies and developing the methods of scenario government effectiveness of regions, bordering EU countries.

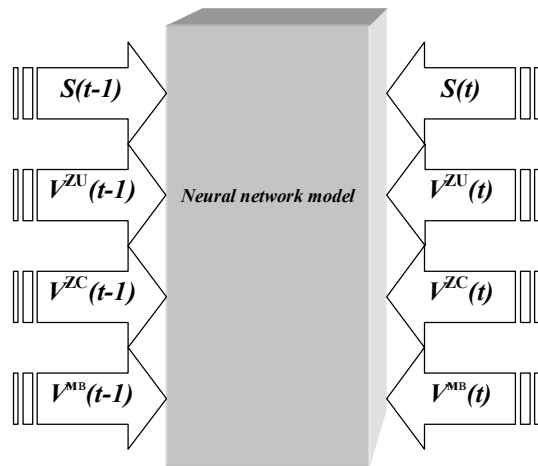
The basis for the task given is building the adequate regional social economic system (SES) taking into account all endo- and exogenous factors of the influence on its behavior. Certainly, the quality of management will be determined by the quality of the model designed. The last, in its turn, depends on the depth of the system understanding of the object (system) and the possibilities to transfer the knowledge on the model. For the example of a frontier region in the basis of the SES model we suggest to put functional and statistic methods of formalization. More detailed information about the formalization methods, available approaches and the technology of the model realization is revealed in the previous investigations [1].

From the unity of the regional SES condition formation factors(S) we segregate three spheres of influence: influence of the local authorities (VMB), national environment (VZC) and the influence of a European bordering country (countries) (VCU).

We will define the condition of the regional management system by the completed set n of the social economic parameters S_i ($i = 1, \dots, n$) stipulated [2]. We will describe the influences of the national environment by the completed set m of social economic parameters V_j^{ZC} ($j = 1, \dots, m$) stipulated as well [2]. The influence of a European bordering country (countries) is identified by the completed set k of the social economic parameters V_i^{CU} ($i = 1, \dots, k$), that describe the main peculiarities of its macroeconomic SES functioning.

The influences of the local authorities will be defined by the completed set h of the target social economic parameters V_y^{MB} ($y = 1, \dots, h$) stipulated by the regional position target papers.

Undoubtedly, by the number of parameters $(n+m+k+h)$ the applied designing of such model is possible only by using the technologies of the data mining (Data Mining). The last one presupposes the regulatory activity of the neural network learning procedure and its future application. In our case in the process of studying we advise to use the approach "succession". For this purpose, a person that makes the decision (PMD) should make a retrospective (at least for 3.5 years) set of the mentioned above indices and export it into the mining programming network for the model learning (pic.1.).



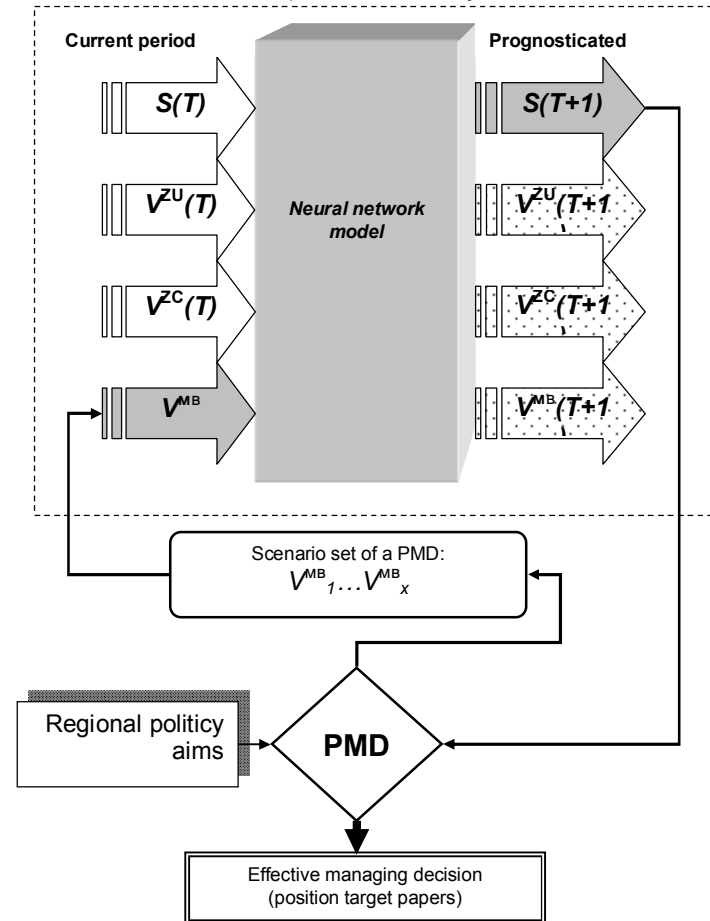
Pic.1. Learning model SES

At the end of the teaching process the model is ready for the applied use. In fact a PMD has at his/ her own disposal a modal analogue of the regional SES (certainly in the concept of the black box systems of W. Ashby), in which there lays the information about the factors interplay: environment,

region of a bordering country and the main fact, the retrospective factor of plan and programme resolutions of the local authorities.

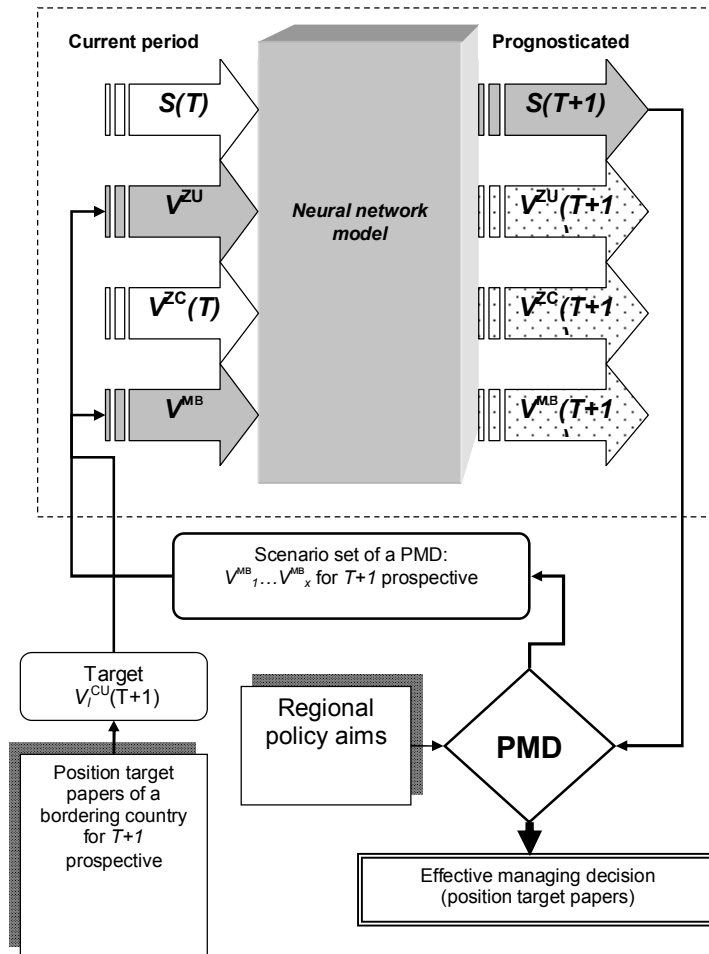
For the model application in the real time (T) a PMD forms a number of managing scenarios - $V_{MB1} \dots V_{MBx}$ and supplies the model on its input (pic.2.). It is clear that the most effective will be the concept from the set of the following scenarios: optimistic, pessimistic and real.

The received information at the model output $S(T+1)1 \dots S(T+1)x$ is analyzed by a PMD for choosing the most optimal managing scenario in the time prospective $T+1$ (pic. 2.), that will meet the definite aims of the regional policy. The information of other outputs is not analyzed.



Pic.2. Applied usage of a SES model when designing regional development strategies (and other position target papers)

The universality of the model allows its usage in the case of own region development strategies coordination and the region of a bordering country as well (pic.3.). For this purpose, it's enough to put on the model's inputs VZU the target parameters VICU(T+1) got from the position target papers of a bordering partner for T+1 prospective.



Pic.3. The applied use of the SES model when coordinating the region development strategies and the development strategies of a bordering country

The same is the possible use of the model when coordinating regional

and national strategies of development.

The suggested concepts of SES modeling has undergone the adaptation and acknowledged their adequacy for solving numerous cases of regional managing tasks on the example of Chernivtsi region and other regions of Ukraine using as a programming environment data mining in the programme Deductor Studio and the public data of the State Statistic Service [1].

As follows, we have suggested a new approach to the methodic support of the regional management effectiveness by the implementation of a region SES model when making position target papers.

The approach allows defining the possible variants of mutually beneficial regional decision from the point of view of economy development of the regions situated near the border and taking into consideration social interests according to Pareto optimum. The prospective of the suggested method gives the opportunities, within the scenario approach, to pass from reactive approach in managing SES to active (preventive) management aimed at preconceptions of arising the crisis or irreversible processes. Moreover, this method allows avoiding the problems of the absence of a statistic data and informational database standardized system with the bordering countries regions and avoids the problem of this data comparison.

References

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2. Postanova «Pro zatverdzhennya Derzhavnoyi stratehiyi rehional'noho rozvytku na period do 2020 roku» (The State Strategy of Regional Development up to 2020 (approved by the decision of the Cabinet of Ministry of Ukraine from the 6th of August 2014 #385)). – Kyiv: KМУ, 2014. – No 385. 5