



DOI: 10.18427/iri-2018-0066

## **Developing the Efficiency of the Public Sector Using Value Methodology**

**Ferenc NÁDASDI**

**University of Dunaújváros  
nadasdi.ferenc@gmail.com**

**Kornélia ZARÁNDNÉ-VÁMOSI**

**Budapest Business School  
vamosinelly@gmail.com**

**Andrea KESZI-SZEREMLEI**

**University of Dunaújváros  
keszi.andrea@gmail.com**

The Hungarian national economy has changed a lot in the past two decades. Market economy was born but the soft control of operations has not been paid too much attention to. The governmental control has been taken over by partnership. The time factor, together with governmental and private investments facilitating long-term enterprise have been highlighted. The new stipulation system born under globalization has had an impact on the change of governmental role. Value Methodology provides the possibility to define what functions are provided by the government during the planning process of governmental tasks, and on the other hand, it also facilitates the demonstration of what cost level each function level may reach. Thus, it can be facilitated that improper operations can be sorted out only in the classic way of controlling, and on the other hand, launching a new system coming together with high cost can be eliminated beforehand. Applying Value Methodology as a specific controlling method seems to be applied perfectly in governmental presence as well (Miles, 1973; Stewart, 2005).

### *Introduction*

The Hungarian economy has gone through a significant period in the last two decades. Due to the weakness of market competitiveness caused by governmental control, it was impossible to avoid turning to market economy. This process ran parallel with the strengthening of globalization; thus, the Hungarian economy should have counted with it to fulfill the whole process.

Due to globalization, the role of the government is changing, which requires further changes not only in the Hungarian economy but also in other countries of the world economy as well. These changes are indicated in the following cases (including, but not limited to:) taxation, giving out money, central bank independence, solution of deficit financing questions of international treaties, expectations of the European Union, characteristic features of co-operations, etc.

In accordance with the state operation rules, political changes had to be carried out as well. So short was the time given for this – despite the previous arrangements – that only the main requirements of the necessary tasks (organization, structure changes, establishing new relationships, investments, capital accumulation) could have been merely successfully defined.

Foreign market economy experts provided significant help, although they were aware of smoothly working enterprise structures, where the sophisticated forms of which were continuously corrected. The real problems of changing or ambiguous and opposing economic consequences were not mentioned in the studies. To sum up, the necessity of the naturalization of the conditions arose, peculiar difficulties of which existed beforehand, in countries with developed market economy, and their elaboration could be fulfilled only in the process of practical attainment. It is obvious that the primary objectives of change were to create a more efficient economy, nevertheless the liquidation of the frame and the institution system working for four decades seemed to be a very difficult, prolonged and money-consuming process

Concluding from the above-mentioned facts, not only are the micro levels (company, enterprise) forced to acquire the efficient rules of the market economy format in Hungary but meso or macro levels as well; together with the working conditions to make it bearable for the society. It is worth outlining and comparing the characteristic features of market economy and state economy on the base of different standpoints. Table 1. presents what role value analysis can play in the fields of market economy participants and state economy.

Table 1. Comparison of the market economy participants and the state economy based on the defined criteria

Comparing criterion	Market economy participant	State economy
<b>The aim of activity</b>	Increasing returns, increasing assets, strengthen market position	Allocation, keeping prolonged control, political control, re-election
<b>Used tools</b>	Labor force, tangible assets, blocked assets	Labor force, prolonged tangible assets and controlling items
<b>Issue</b>	Private assets, (public assets)	Public assets, private assets, produced in public environment
<b>Financing</b>	Private and non-private sources, tender source	Income, credit exploitation of state asset, tender sources
<b>Risks</b>	Operation, financial, environmental, market risks	Economy risk, environmental risk, institutional (financial operational) risks
<b>Controlling</b> (Value Methodology as a specific process)	Owner, market controlling, international controlling, VALUE METHODOLOGY	State control, VALUE METHODOLOGY

Source: (Gyulaffy Béláné at al., 2004)

The political change materialized quickly and smoothly, but the economic change will have been completely formed during a long process. Certainly, the process can be accelerated, that is why all the former and new methods should be used to facilitate the increase of company and enterprise competitiveness in accordance with improving management efficiency.

The widespread application of Value Management (referring to a field of up-to-date specific controlling) in the national economy seems to be an option, not only in the field of enterprises but also in the case of fulfilling state tasks. We can state, that the conditions are available, the only question is, how the country can use this possibility. To understand the question properly, we can provide international cases as well (Gyulaffy Béláné at al., 2004).

### *Development of Value Methodology: Outlining the present situation*

#### *The connection of historical necessity and economy technology with the USA*

Value Methodology was formed in the USA during World War II (Miles, 1973). The successful Japanese attack in Pearl Harbour in 1941 and the USA deficiency in protection led to the events during which the Japanese – German navy forces cut the anti-fascist coalition from the traditional raw material resources over the Atlantic Ocean. At the same time, the USA had

a huge amount of labor force, capital fund and production possibilities, thus, its allies (mainly England and the Soviet Union) were hoping in war supplies (Churchill, 1989).

To substitute and use raw and basic materials, a so-called 'war capitalism' was introduced during World War II, the main objective of which was the centralized division of sources to ensure the more efficient production. In this emergency, Value Methodology could be applied perfectly. The components of Value Methodology: team-work, function analysis, establishing psychological results, etc. are ready to be applied. In developed countries, Value Methodology first became a fashion, then went out of fashion. In modern ages, it became a necessity, mainly in countries undergoing changes. Japan is the only country where its application was continuous. According to American experts, (in the American – Japanese competition) in many fields Japan can win with 'weapons' with American origins and one of these so-called 'weapons' is Value Methodology.

In general opinion, nowadays Value Methodology is the only organizational – managerial method which has been primarily supported by the government in developed countries. The cause of it is that according to scientific explanation, Value planning is the only organizational method supported by economic interests, through the application of which, a 10-30 % cost save can be approachable.

At the same time, the vast majority of the expenditures is intellectual investment, – which is based on Hungarian and foreign experience – it can make up only 5% of the yield. It is natural, that after World War II, besides war industry, this method became widespread in public sectors as well. It is interesting that in a relatively short time, the most powerful economy in the world made the application of Value Methodology obligatory due to favorable results in different sectors of the economy – mostly in the war industry – using state resources – within given phases and conditions.

This was crowned by the law sanctioned by President Clinton in 1996, making the application of Value Methodology obligatory using state sources. (Public Law 104-106. 10 February, 1996) Applying Value Methodology in private sectors spread boomingly, since using extra-profit possibilities originates from the logic of the system in a perfectly working market economy.

### *Value Planning in the accomplishment of state tasks*

The first step of applying Value Methodology in accomplishing state tasks is to examine the structure of the budget. See table 2. According to our analyses, Value Methodology can change the INPUT and OUTPUT of the budget in a favorable way. On the INPUT side, a high amount of contributions done by enterprises and companies, on the OUTPUT side, using a more efficient and lower budget level at state tasks can result in saving state sources or in their more efficient use.

Table 2. The structure of budget

→ INPUT		→ OUTPUT
Constant incomes	<b>BUDGET</b>	Health care
Taxes		Defense
Duties		Education
Levy		etc.
Fees		
Temporary incomes		
Domestic and foreign loans		
Others (for example tenders)		

Resource: (Gyulaffy Béláné at al., 2004), (Koháriné Papp Edit, 2002)

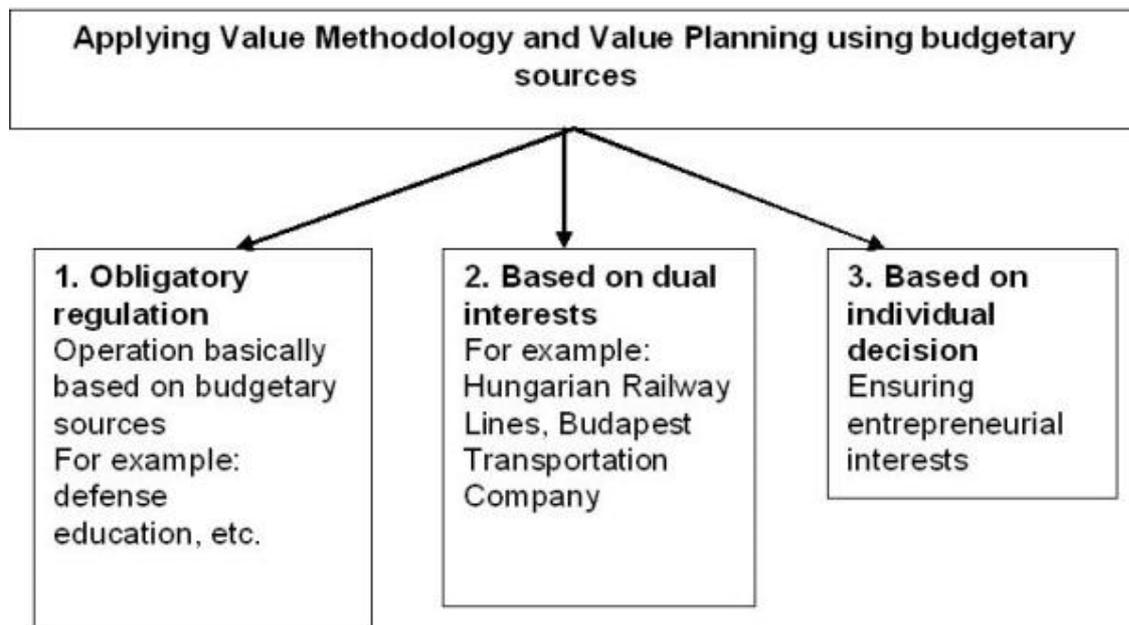
Value Methodology can be applied in all functional areas of the budget. Value Methodology of investments can be highlighted to which a methodology and a collection of exercises are available in Hungarian (Nádasdi, 1999). The methodology was worked out by the cooperation of Hungarian and American Value Methodology experts, mainly focusing on Hungarian conditions.

### *More efficient use of budgetary sources by applying Value Methodology*

To use budgetary sources more efficiently, 3 basic areas are suggested to be considered:

- Applying obligatory regulations in the areas using basically these sources;
- Areas working by dual interests;
- Voluntarily working areas.

**Figure 1. Suggestion for a more efficient use of the budgetary sources by applying Value Methodology**



Source: (Gyulaffy Béláné at al., 2004)

### *Possibilities of state influence in Value Methodology*

Taking the peculiarities in Hungary into consideration, we can state that regulations applied in the USA (sanctioned by the law) will be accomplished in a prolonged period of time. In the first phase, we suggest combining tender systems with Value Methodology. At parliamentary level and in highlighted developing areas, it is advisable to define the target area of Value Methodology primarily in a form of policy. We suggest that the accomplishment should be started in the first phase in the case of ministerial tenders and public procurements. We are highlighting the Value Methodology supported innovational tenders, in the case of which, the final decision aiming at stopping development could be made in the early phase of development costs. We consider ensuring entrepreneurial and company interests. Only in this way can it be guaranteed that the organizations involved in the accomplishment of governmental tasks cannot neglect or sabotage applying Value Methodology. To our judgment, innovational activities significantly influence the operation system of Public Sector. On the one hand, supporting the primary goal of the Public Sector cannot be accomplished without effective innovation activities.

## *W. J. Clinton and A. Gore Jr.'s analysis on innovation*

W. J. Clinton, the former president of the USA, and A. Gore Jr., the former vice president of the USA published a strategic analysis titled as: "Technology for America's Economic Growth, A New Direction to Build Economic Strength." The authors' starting thesis is: '*Technology is the engine of economic growth.*'

According to the authors, the primary objective is to facilitate environmental friendly, long-term economic growth creating new jobs. (Note: In English, the term 'Technology' has a more widespread meaning than in Hungarian.) According to the study, for supporting technological development, the following 4 categories are suggested:

- 1) Direct financing of the new technology development and its involvement and application in the production process.
- 2) Supporting the above-mentioned topics by Finance politics and law.
- 3) Development of education and further training.
- 4) Centralized development of communicational and transportation infrastructure.

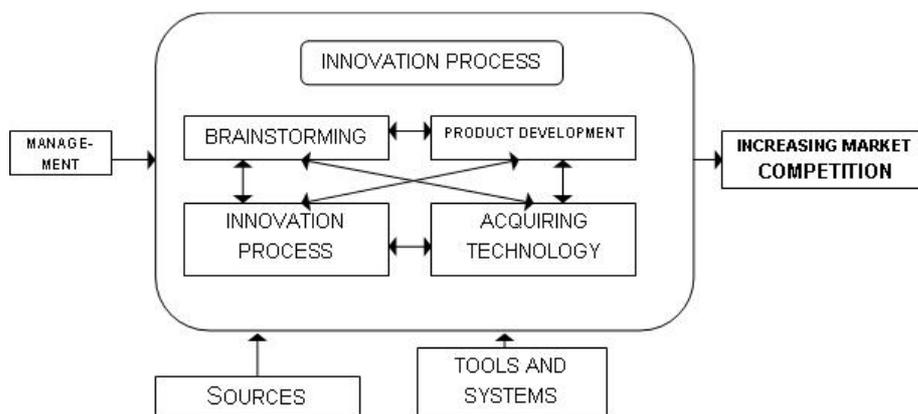
The above-mentioned list shows that the authors use 'Technology' in the widened meaning. All in all, the analysis significantly influenced the American economic growth, and its highlighted components, such suggestions currently exist in the American administration. It is highlighted that the USA puts a great emphasis on applied researches, technological developments and innovation as well. We are aware of the fact that it is impossible to adapt the innovation system of another country to Hungary, nevertheless the applied methods there, which result in positive results, can give useful ideas to make further developments in our innovation system.

## *Supporting innovation processes and their Value Methodology*

### *Describing the innovation process*

To reveal "the secret" of innovation, a substantial number of Hungarian and foreign researchers have published different models. The process-centered model of innovation can be considered as such an experiment. See Figure 2. From this figure, it is clearly seen that the process starts with brainstorming and ends in product development. The problem with this model is that it does not help the innovation processes of firms and companies thoroughly. We could identify 2 basic characteristic features in each analyzed project: In each case the innovation starts with brainstorming, but should result in a market competitive product.

Figure 2. Process-centered model of innovation



Resource: *Innovation and competitiveness. Budapest, OMFB, 1997:120, Figure 6.*

The question is given: how should an innovation process start? Should each firm or company be headed by a unique person like Steve Jobs, the father of the iPod, iTunes, the iPhone or iPad? In the vast majority of the cases, the innovation process can start from two directions. *The first direction* is aiming at solving different social problems such as illnesses, environmental protection, transport, flood prevention, national defense, fight against terrorism and crime, etc. Researchers working in these areas can rely on financial and moral state support. *The other direction* means new products, methods, inventions, services worked out by genius inventors thus creating new customers' demands. In the last few decades, the management science has worked out several methods which can make it possible that non-genius inventors can actively participate in innovation process. We mean here Value Analysis, TRIZ and other soft scientific procedures such as the psychological method of creation (Altsuller et al., 1985).

### *The operation of innovation processes*

An innovation process is organized in the framework of a project because investments and results can be compared efficiently this way. Only this way can financing be carried out with efficiency avoiding the trap of "institutional financing". In an innovation project, the first step is to create the so-called "board model", which means a working equipment or technology. If the "board model" is working, the possibility is given to make a market survey to find out which solutions certain market segments intend to buy and what the competitive price is. The question in this case is, how Value Methodology can help (Iványi & Hoffer, 2002).

## Applying Value Methodology in innovation processes

In an innovation process, the procedure runs from department to department, where each section works out various sources to make a project. But at the end of a project, it may be revealed that the costs have lost because the customers' dream have not met the engineers' dreams, thus, the product will not be a hit in the market. A Value Methodology project is carried out in teamwork; thus, the work is done in real-time, that is why it is possible to make professional negotiations before decision making.

Figure 3. Morphology: Possible solutions of product variants

MORPHOLOGY								
Sections	Possible solutions and their cost							
<b>Section 1</b>	<u>K11</u>	K12	K13	K14	K15	K16	.....	K1j
<b>Section 2</b>	K21	<u>K22</u>	K23	K24	K25	K26	.....	K2k
<b>Section 3</b>	K31	K32	K33	<u>K34</u>	K35	K36	.....	K3l
<b>Section 4</b>	K41	<u>K42</u>	K43	K44	K45	K46	.....	K4m
.....	.....	.....	.....	.....	.....	.....	.....	.....
...	.....	.....	...	...	...	.....	.....	.....
<b>Section i</b>	Ki1	Ki2	Ki3	Ki4	Ki5	Ki6	.....	Kin

Source: individual creation

A great number of Hungarian and foreign publications are available dealing with the application of Value Methodology; that is why it is not our intention to give a detailed introduction. Based on our professional experience, we can state that those products which are not under Value Methodology contain a 10-30 % unnecessary cost. Hungarian and foreign analyses carried out in the past few years have proved that Value Methodology is one of the most efficient tools of innovation.

## Summary

American experience creates evidence that Value Methodology can be applied efficiently to carry out state tasks. In our opinion, the wide application of Value Methodology in this field can result in an annual 1 billion Euro saving in Hungary, if the tasks are carried out at the same or a higher level.

The conditions are given, and we hope that this possibility will be used in the near future to develop Hungarian national economy in a faster pace. The experience of other countries is worth being taken into consideration, since leading economies of the World Economy are permanently applying

this method, so its use may have beneficial effects on building the co-operative system of other countries.

## **References**

- Altsuller, G. S., Zlotin, B. L., & Filatov, V. I. (1985). *Professija – Poisk novova Kisinyov*. Kisinyov: Kartyja Moldovencke.
- Churchill, W. S. (1989). *A második világháború. 1-2. kötet*. Budapest: Európa.
- Gyulaffy Béláné, Nádasdi F., & Vámosi K. (2004). *Az értékmenedzsment alkalmazása az államháztartás területén*. Budapest: Értékelemzési Fórum, Magyar Értékelemzők Társasága.
- Innováció és Versenyképesség* (1997). Budapest: OMFB. P. 120. figure 6, based on Chiesa-Coughlan-Voss (1996). (Original work: Chiesa-Coughlan-Voss (1996). *Development of a Technical Audit*, *Journal of Production and Innovation Management*, 13, 105-136.)
- Iványi A. Sz., & Hoffer I. (2002). *Vállalkozásfejlesztés és innováció*. [Manuscript].
- Miles, L. D. (1973). *Értékelemzés*. Budapest: Közgazdasági és Jogi Könyvkiadó.
- Nádasdi F.(Compiler) (1999). *Beruházási folyamatok értékelemzése I-II*. Dunaújváros: Miskolci Egyetem Dunaújvárosi Főiskolai Kar.
- Public Law 104-106. 10<sup>th</sup> February, 1996, Sec. 4306. Value Engineering for Federal Agencies.
- Stewart, Robert B. (2005). *Fundamentals of Value Methodology*. Bloomington, IN: Xlibris Corporation.