

**2010.**

**4**

# **ECONOMIC THEMES**

**Niš, 2010.**



**godina XLVIII**

**YU ISSN 0353-8648**

## **ECONOMIC THEMES**

### **Published by:**

Faculty of Economics Niš

### **Editor:**

Dr Evica Petrović, Dean

### **Editorial Board:**

Dr Dejan Spasić, Faculty of Economics Niš

Dr Blagoje Novičević, Faculty of Economics Niš

Dr Sreten Čuzović, Faculty of Economics Niš

Dr Vera Đorđević, Faculty of Economics Niš

Dr Srđan Marinković, Faculty of Economics Niš

Dr Biljana Rakić, Faculty of Economics Niš

Dr Bojan Krstić, Faculty of Economics Niš

Dr Ljiljana Maksimović, Faculty of Economics Kragujevac

Dr Dragana Pokrajčić, Faculty of Economics Belgrade

Dr Robert Gora, University of Information Technology and Management, Rzeszow, Poland

Dr Robert Vodopivec, University of Maribor, Slovenia

Dr Angel Georgiev Angelov, Faculty of Management and Informatics, UNWE, Sofia, Bulgaria

Dr Penka Goranova, Tsenov Academy of Economics - Svishtov, Bulgaria

Dr Dino Martellato, Faculty of Economics, University "Ca' Foscari" Venezia, Italy

Dr Ljubica Kostovska, Faculty of Economics Skopje, Macedonia

Dr Tatiana Orekhova, Donetsk National University, Ukraine

Dr Alexandru Trifu, University „Petre Andrei” of Iasi, Romania

Dr Ümit Gökdeniz, Marmara University, Istanbul, Turkey

### **Editor-in-chief:**

Dr Ljiljana Stanković

E-mail: [ljiljana.stankovic@eknfak.ni.ac.rs](mailto:ljiljana.stankovic@eknfak.ni.ac.rs)

**Economic themes** was partly financed by

**Ministry of Science and Technological Development of the Republic of Serbia**

### **Lector:**

Miroslava Đorđević

### **Computer Support:**

Zvonko Ilić

Ivana Randelović

### **Address of the editor and staff:**

Niš, Trg kralja Aleksandra Ujedinitelja br. 11, phone: +381-18-528-638, 528-624

E-mail: [ekonomske-teme@eknfak.ni.ac.rs](mailto:ekonomske-teme@eknfak.ni.ac.rs) WWW: <http://eknfak.ni.ac.rs/Ekonomske-teme/>

ISSN 0353-8648 (Printed issue),

ISSN 2217-3668 (Online)

SD 1990; UDC 33; ID 1117795

**FACULTY OF ECONOMICS NIŠ**

**ECONOMIC THEMES  
YEAR XLVIII  
No. 4**

**Niš, 2010**

\*\*\*\*\*

**EKONOMSKI FAKULTET NIŠ**

**EKONOMSKE TEME  
GODINA XLVIII  
BROJ 4**

**Niš, 2010.**



## C O N T E N S

1. **Borko Krstić, Srđan Marinković, Mirjana Jemović**  
CURRENT CONTROVERSIES OF THE CENTRAL BANK  
COMPETENCES WITH REGARD TO ITS  
TRADITIONAL FUNCTIONS ..... 479
2. **Ljilja Antić, Mila Georgijevski**  
TIME-DRIVEN ACTIVITY BASED COSTING ..... 497
3. **Slavica Cvetković, Jorda Radosavljević**  
THE PLANNING OF THE RESERVES OF THE REPRODUCTIVE  
MATERIAL IN ORDER TO PROVIDE THE CONTINUITY OF  
THE PRODUCTION PROCESS ..... 513
4. **Aleksandar Grubor**  
MARKETING AND SERVICE ECONOMY ..... 529
5. **Vesna Janjić, Mirjana Todorović, Dejan Jovanović**  
CVP ANALYSIS -THE IMPACT OF COST STRUCTURE ON  
THE RESULT OF THE COMPANY ..... 545
6. **Vesna Stojanović Aleksić, Jelena Erić, Srđan Šapić**  
STRATEGIC ORIENTATION OF NEW HIGH-TECH VENTURES ..... 561
7. **Marija Petrović-Randelović, Snežana Radukić**  
THE IMPACT OF ENVIRONMENTAL POLICY IN SHAPING THE  
ENVIRONMENTAL PERFORMANCES OF FOREIGN  
DIRECT INVESTMENT ..... 573
8. **Snežana Vujović**  
INFLUENCE OF EMOTIONAL LEADERSHIP ON  
EMPLOYEES' ATTITUDES ..... 589
9. **Branislav Mitrović**  
PROSPECTS FOR BELATED ECONOMIC TRANSITION IN SERBIA .... 605
10. **Biljana Đorđević**  
CULTURAL ADJUSTMENT TRAINING OF EMPLOYEES FOR  
WORKING ABROAD ..... 615
11. **Sanja Vučković**  
BEHAVIORAL FINANCE AND FINANCIAL MANAGEMENT ..... 631

12. <b>Nikola Milović</b> COMPETITIVENESS AND INSTITUTIONAL FRAMEWORK FOR IMPLEMENTATION OF COMPETITION POLICY IN MONTENEGRO .....	641
13. <b>Jelena Andrašić, Renata Amidžić</b> VALUE BASED MANAGEMENT IN THE FUNCTION OF ENHANCING ENTERPRISE COMPETITIVENESS .....	659
14. <b>Ivan Stefanović</b> DESIGNING ORGANIZATIONAL STRUCTURE: AN INTEGRATED APPROACH .....	671



UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"  
Year XLVIII, N° 4, 2010, p. 479 - 496  
Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš  
Phone: +381 18 528 601 Fax: +381 18 4523 268

## CURRENT CONTROVERSIES OF THE CENTRAL BANK COMPETENCES WITH REGARD TO ITS TRADITIONAL FUNCTIONS

**Borko Krstić, PhD\***  
**Srdan Marinković, PhD\***  
**Mirjana Jemović\***

***Abstract:** The paper represents both theoretical and empirical analysis of mutual dependence of three basic roles of central banks: monetary regulation, supervision and lender of last resort. After reviewing the main institutional dilemmas pro et contra institutional separation and unification, we proceed with analyzing the case of recent Serbian liquidity disturbance. Correlation matrix is derived for the time series of five-year monthly data and for subsections: prior the crisis, crisis period itself, and after the crisis. It is found that liquidity shortage is solved almost solely by required reserves policy, which is accommodated to the nature of the shock. Lender of last resort arrangements played secondary role at most.*

***Keywords:** monetary policy, lender of last resort, liquidity squeeze, Serbian banking industry, time series correlation.*

### Introduction

A traditionally conceived central bank (hereinafter referred to as CB) has a triple mandate, regarding its simultaneous jurisdictions in monetary regulation, supervision and assurance of liquidity in the banking sector. Being that these three functions are not always easily coordinated, discussions on the need to relocate certain functions from the CB competence to the jurisdiction of some other regulatory body become actualized occasionally. In this paper, we shall try to point out the importance of keeping the monetary control, the supervision and the lender-

---

\* University of Niš, Faculty of Economics, E-mail: [srdjan.marinkovic@eknfak.ni.ac.rs](mailto:srdjan.marinkovic@eknfak.ni.ac.rs)  
UDK 336.711, Review paper  
Received: 17.11.2010. Accepted: 09.12.2010.

of-last-resort function under the jurisdiction of CB in the atmosphere of crisis, in order to simultaneously affect sustaining of monetary stability as the target of monetary regulation function and of financial stability as the target of the function of supervision and lender of last resort.

The recent financial crisis has shown that the preservation of financial stability is a task equally difficult as the preservation of price stability. Since financial stability often remains as one of the basic aims of CB, the question is whether adequate optimum can be established between financial stability and price stability. In line with the Tinbergen rule (1952), "concurrent achievement of price and financial stability requires the development of additional instruments for monetary and prudential policies" (according to Geraats, 2010, p. 60). The interconnection of these three functions, which are traditionally assigned to central banks, is highly complex. Since this problem comprises an organizational aspect as well, more attention shall be hereafter devoted to the analysis of numerous arguments for and against their institutional separation *versus* integration. In the last part of this paper, we shall try to examine this dilemma from the perspective of recent events in the Republic of Serbia.

#### **Arguments for and against Institutional Separation of CB Functions**

The traditional opinion has been that the central bank should concurrently be responsible for monetary regulation, supervision of banks and assurance of liquidity in the banking sector. However, the dynamic characteristics of modern banking contributed to the growing institutional separation of these functions. In this connection, the most common arguments outlined for the institutional separation are (more on that in Goodhart, 2000, pp. 8-23): homogenization and internationalization of financial intermediation, as well as the conflict of goals.

Being that institutions differ more by the lines of financial services they render than by their names, there was a need to establish regulatory bodies to exercise unified control over all institutions that provide regulated lines of financial services. However, since CB is usually not responsible for the non-banking financial institutions, if the ultimate efficiency of regulation required the formation of a single regulatory body, such a role, given the arguments presented, should be given to another body.

Modern democratic political systems insist on the institutional independence of central banks. When such efforts prove to be effective, central banks become powerful organizations upon which no political influence can be exerted. Separation of a part of responsibilities from the central bank scope of activities is then seen as a way to limit the influence of



### **Current Controversies of the Central Bank Competences with Regard to its Traditional Functions**

---

CB. This is usually performed by separating the function with the fewest irrefutable reasons for remaining within the central bank, that is, the function of supervision. This is supported by some other arguments, too. In fact, the internationalization of financial operations imperatively imposes a high degree of supranational unification of procedures and mechanisms for supervising providers of financial services, forcing the central banks, as national institutions, to limit their sovereignty in the area of supervision and to accept international coordination as a solution. However, for similar reasons, many central banks are also forced to limit their sovereignty in the area of monetary regulation. Monetary stabilization programs based on rigid exchange rate regimes (monetary union, currency board or fixed rate) are the examples of radically reduced instruments of central banks in the monetary regulation. In this way, the national monetary institution can retain only the function of the lender of last resort.

The last argument in favor of the institutional separation of these functions is a *conflict* that may arise in the objectives of monetary regulation, on the one hand, and in the supervision and the lender-of-last-resort functions, on the other. The central bank, which is simultaneously responsible for monetary and financial stability, autonomously decides on the priority in situations where both objectives are at risk. Since a restrictive monetary policy in the systemic financial crisis conditions may only intensify problems, the most likely option will be leaving the monetary framework and sacrificing monetary stability. In this way the monetary policy will be obstructed by a concern for profitability and liquidity of the banking sector (see Copelovitch and Singer, 2008). The time factor stands apart as an additional argument in favor of the institutional separation of these functions (Goodhart and Schoemaker, 1995). Namely, in the atmosphere of threatened financial stability, urgent actions of regulatory authorities are required. When both functions are integrated in the same institution, the fact that this institution is now responsible for preventing, identifying and solving problems can lead to a reluctance to identify and qualify the problem in its full dimension. Therefore, it is recommended to extract the function by which the problem is identified and the function by which the problem should be solved. But even then close cooperation and continuous exchange of information between the authorities responsible for supervision and CB is recommended.

In the interdependence of monetary regulation and the function of supervision, the *conflict* need not always be emphasized. Peek *et alia* (2009) emphasize the *synergistic effect* resulting from the integration of these functions, in order to simultaneously affect the objectives of monetary and

financial stability. For these reasons, we provide below a brief overview of the main arguments against the institutional separation of given functions.

Deposit-loan organizations form the infrastructure that the leading monetary institution uses in the transmission of monetary impulses, so the concern for their financial stability is a key condition for the effective implementation of monetary policy (Abrams and Taylor, 2000). Whether the function of supervision of financial institutions shall remain within the competence of CB, or it will be transferred to any other regulatory body, represents the question of an organizational character. However, in systems in which the function of supervision is separated from the scope of activities assigned to the central bank (the case of the UK) the problem arises related to the coordination among institutions responsible for different functions.

A special argument for the integration of functions is the so-called *information synergy* (Di Noia and Di Giorgio, 1999). The connection between the function of supervision and the effects of the lender-of-last-resort function is more than relevant. It can be stated that the function of supervision is the "eyes and ears" of the lender-of-last-resort function, because it will identify the degree of vulnerability of the financial sector and individual organizations. Information generated through the function of supervision may be of invaluable importance for the function of monetary regulation, too. Especially in situations of systemic crisis, assessment of the risk level of financial intermediaries can help in predicting future inflationary pressures or problems of unemployment (Peek *et alia*, 1999).

The central bank, as a public institution, should comprehend its goals in line with the concept of social responsibility. In case of major financial disturbances, financial stability maintenance becomes a higher priority objective, to which the standards of the lender-of-last-resort function have to be flexibly adjusted (relaxed). Extraction of the function of supervision from the jurisdiction of the central bank causes the establishment of a body that may jeopardize the ultimate goal achievement. Being that such a body can be responsible exclusively for early signaling of disturbances, but not for a reactive anti-crisis policy, the degree of its responsibility for achieving the objective is very limited, thus making it unjustifiably rigid in terms of the interests of society.

Through emphasizing social *responsibility*, a counterbalance is set up against the mentioned attempts to limit the (independence) power of the central bank. The problem of choosing an institutional solution can be summarized as follows. If activities are performed within the mandate, in accordance with the required coordination in the achievement of the

### **Current Controversies of the Central Bank Competences with Regard to its Traditional Functions**

---

integrally perceived social interest, the manner of organizing given functions becomes irrelevant. The orientation to separation can be justified only if a (clear) division of responsibilities among institutions establishes mutual control, which can give effect only if all the institutions agree on the objective, but probably some of them will not act in accordance with their respective mandates.

#### **The Lender-of-Last-Resort and the Monetary Regulation Functions**

The lender-of-last-resort function should be conducted in accordance with several so-called classical criteria in order to avoid its influence upon the function of monetary regulation. The first two criteria, defined by Bagehot (1873), read as follows: “lend freely a) at high rates, and b) against good collateral” (see Goodhart, 1999, p. 2). These guidelines were later extended by adding another two conditions: c) for a short term and d) exclusively to solvent institutions.

The first recommendation indicates that the supreme monetary authority should not restrict the money supply created through the last resort arrangements of banks. Restriction of the scope of intervention is accomplished by insisting on a disincentive interest rate and good collateral. In this way, the amount of intervention is controlled through the demand. Money borrowed in the short term, no matter how massive the intervention might be, will be annulled in a very short period of time, so the impact on inflation as the ultimate monetary policy goal will be insignificant.

If the central bank consistently insisted on the three conditions, the last condition would not be necessary. However, during the last crisis, leading central banks around the world did not opt for stipulating their support by high interest rates. Moreover, the list of eligible collateral was expanded, having also involved the less secure collateral, although a sharp deterioration in the economic environment caused the previously secure collateral to become less secure. Relaxation of the lender-of-last-resort function criterion can be justified only by the assumption that the market has created an error when it blocked particular institutions or dismissed certain financial assets as unacceptable for the role of collateral. However, it is arrogant on the part of the regulator to decide to ignore the attitude of other participants and accept the collateral that has been refused by the market. Not only that it is not possible to keep money supply growth in the earlier projected limits by thus conducted lender-of-last-resort policy, but such decision may ultimately lead to the subsidization of those participants whose irresponsible business moves have threatened the market, that is, to drawing of assets of dubious quality from the private to the public sector (balance of

intervener). Nevertheless, massive interventions were the rule. Below we will explain some terminological dilemmas related to liquidity creation that contribute to the confusion, which is often used as a justification of political pressure on the key interveners to remove their reaction from the theoretical fundamentals and adapt it to the needs of key stakeholders.

### **Three types of illiquidity**

The mentioned synergistic effect may at least partly be explained by the fact that the response of monetary authorities to support the liquidity affects macroeconomic liquidity and vice versa. Injected liquidity can not be kept within the institution or the sector into which it was injected; it will be transferred to a greater or lesser extent to all other segments of the economy, as well. The lack of a uniform definition makes the problem of adequate response to endangered liquidity more complex. The manner of needed reaction depends on how serious the problem of illiquidity is, or what the generators of liquidity are. The problem of liquidity can be of very different nature. According to Cecchetti and Disyatat (2009), there are three types of liquidity: central bank liquidity, market liquidity and funding liquidity. The first type of liquidity is a monetary phenomenon and it may be comprehended in the simplest way through the level of primary liquidity reserves of the banking sector, especially through the relationship between the primary reserves and required reserves. As these funds are the basis for interbank loans for liquidity, the conditions under which these loans are provided may indicate the availability of this type of liquidity. The supply of these funds, for the system as a whole, is absolutely controlled by the central bank, hence the term "central bank liquidity". However, lending conditions may also indicate a growing demand, which can be driven by completely different reasons. Market illiquidity points out that certain segments of the financial market lack liquidity, so the exchange of given financial assets is aggravated and can not be done within a reasonable time and with an economically acceptable impact on the realization price. Organizations that invest in such markets may also be endangered, because their assets are insufficiently liquid. Funding illiquidity means the inability of certain organizations to ensure normal renewal of funding sources, to provide funds by additional borrowing or selling assets. It is clear that the market liquidity and the funding liquidity may be at least partly caused by the same disorder.

Lack of liquidity for which the central bank is responsible represents the least critical problem. This problem may be due to inadequate distribution of reserves, or to inadequate supply of reserve money by the central bank. In such situations, the interbank market is still functioning, but

### **Current Controversies of the Central Bank Competences with Regard to its Traditional Functions**

---

the interest rate records growth. The second in significance is a chronic lack of funding liquidity of specific companies. Very often, such illiquidity is only a manifestation of the insolvency that is at the very root of the problem. Despite a desperate need for liquidity, the impacted organization is not allowed to collect money in the market. Most serious consequences are produced by a systemic lack of funding and market liquidity. The market confidence is severely shaken. Market participants fail to adjust their behavior, probably because they are at the same time affected by outflows. This kind of liquidity lack endangers the stability of the financial system, and can cause long-term negative implications for the entire economy. Systemic liquidity crises are the disturbances in which it could easily be reached out for the argument of “necessity of intervention”. This is one of the reasons why the categorization of a specific crisis episode is often shifted from the academic into politically motivated debates.

The central bank can respond in several ways to alleviate the problem of illiquidity. The first way is to arrange a bilateral support, by directly crediting affected organizations, or the second way, to inject liquidity through open market operations, by granting credits in the regular transparent procedure (usually repo operations). Very rarely central banks intervene by buying specific assets in the open market. When done so, it is usually the redemption of government bonds. In this way the central banks increase not only the market liquidity, but also the central bank liquidity, and possibly the funding liquidity as well. However guided, the intervention by the central bank will always affect all three types of liquidity.

Let us examine the interconnection of these three concepts of liquidity. Insufficient liquidity of assets can be referred to as a structural feature of the segment in which these assets are traded. However, when a significant decline in market liquidity occurs in a short time, economists generally define it as a crisis. It is difficult to distinguish between market illiquidity and funding illiquidity (of particular organizations). First, because the decline in liquidity of certain market materials, when used as a form of secondary liquidity reserves, may force investors to compensate the reduction in market liquidity by increasing their funding liquidity, that is, by additional borrowing. The true nature of the liquidity disorder may be judged upon only if the origin of the shock is reliably determined. If the shock was generated in the market for assets before it appeared in the institutions that represent dominant investors, this is the case of endangered market liquidity. If the problem first appeared with investors, and then was transferred to a specific segment of the market, blame will be on the opposite side.

A very interesting review of the relationship between liquidity of financial institutions and market liquidity may be found in Keynes (1936, p. 155). The author states: „Of the maxims of orthodox finance none, surely, is more anti-social than the fetish of liquidity, the doctrine that it is a positive virtue on the part of investment institutions to concentrate their resources upon the holding of 'liquid' securities. It forgets that there is no such thing as liquidity of investment for the community as a whole“. This idea could be reinterpreted to bring it in connection with the concept of liquidity which is dominant in the theory of market microstructure. Namely, the balance between supply and demand for certain assets that leads to the normal functioning (liquidity) of market depends on how much market participants believe that such a balance can be a possible outcome. Based on what has been said so far, it becomes quite clear that the liquidity of market (assets) is a matter of great concern for the problem of maintaining financial system stability, too. Decline in activity (and liquidity) of a particular market segment could be the consequence of a loss of confidence in non-arbitrage pricing function among market participants. It may sound like a tautology that the cessation of functioning of the endogenous pricing function depends on whether the market participants who are trying to avoid the risk of trading termination represent the majority or not. However, this problem belongs typologically to the well-known problem of coordination, in which an individually rational decision may *en masse* generate an outcome that would be irrational for the entire collectivity.

Further consideration of the nature of illiquidity in the market requires an analysis of the role of central banks, as well. If the jeopardized liquidity of financial markets and organizations is due to insufficient levels of bank reserves, we can also state that the liquidity which is in charge of the central bank was the factor that contributed to the exacerbation of the situation. The dilemma could be simplified like this: “what is missing - money or the willingness to invest this money?”. Certain phenomena may indicate the nature of the problem. The guilt of financial organizations will be indicated by a high aggregate level of primary reserves followed by small liquidity trading in the interbank market. Also, when the problem of threatened liquidity of financial institutions is followed by increasing the participation of cash in relation to deposits, it is a clear indication that the central bank has not made a mistake, sine the pressure comes from depositors.

In further text, we shall analyze the specific episode of crisis. The analysis results confirm the advantage of coordination of those functions that can be executed by identical instruments.

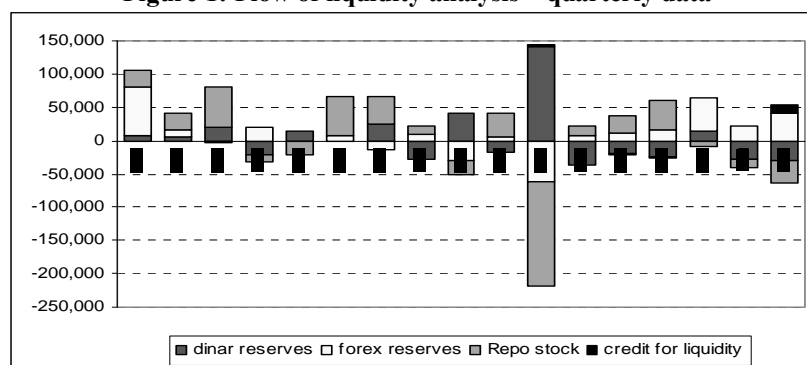
## Current Controversies of the Central Bank Competences with Regard to its Traditional Functions

### Response to the Liquidity Crisis in the Autumn of 2008

The Serbian banking sector was hit by a very sharp liquidity crisis. Liquidity problems appeared already in the second quarter of 2008, when the first reaction of NBS took place. First, due to contraction of the inflow of credit funds from abroad, and then, from September the same year, also because of the rapid withdrawal of foreign deposits, the banking sector in Serbia has entered the state of extremely endangered foreign currency liquidity. The crisis culminated in the last quarter of 2008. This crisis subsided by an adequate reaction of the National Bank of Serbia, through which the behavior of the banking sector was directed. After a brief insight into the instruments, we shall analyze the banking sector reaction to the outflow of foreign currency liquidity using the method of correlation in time series of selected variables, indicating the instrument of liquidity defense.

The following review will show us how the additional liquidity was included into the banking system. As the main source of data, we used the NBS report, which has been published for years in the form of a very detailed monthly bulletin. The structure of NBS balance of accounts is presented in one part of this report. We followed quarterly changes in the balance of selected categories, because only the changes indicate the flows of money creation. Also, the presented review does not show only the structure of liabilities or assets of the NBS, as in this way it is not possible to cover all the flows of creating or withdrawing money in the system. Certain modification or integration of data was needed. In this way, if in a given period (quarter) a reduction occurs in the item of liabilities (NBS) against repo transactions, it actually represents a flow of money creation. The same applies to the items of dinar bank reserves and foreign currency deposits with the NBS, as all items represent the commitments of the NBS towards the banking sector.

Figure 1: Flow of liquidity analysis – quarterly data



During the last decade, the National Bank of Serbia has been using only foreign currency operations as explicit flows of money creation. However, these operations represent autonomous flows of money creation, so we will ignore them in this analysis, because the purpose of the analysis requires that we remain confined only to the liquidity flows which are controlled by the NBS and the banking sector.

Comparing the relative importance of these flows, we may notice that the instruments of monetary control were much more important for creating additional liquidity. Although the NBS reacted by some relaxations of the lender-of-last-resort policy, this flow (loans to banks) had a negligible contribution to the creation of liquidity. A more significant increase in direct loans to banks is evident in the second quarter of 2010.

Therefore, we may conclude that there is a mutual dependence of the functions of lender of last resort and monetary regulation. An activity that is primarily focused on the lender-of-last-resort function can create liquidity so significant that it must not be ignored in the monetary regulation. At the same time, the instruments of monetary regulation can help in performing the task of supporting the banking sector liquidity. The following is a chronological review of actions taken by the NBS within the policy of required reserves.

**Table 1: Required reserves policy – chronology**

<b>Begins</b>	<b>Rate changes</b>	<b>Base changes</b>	<b>Currency</b>	<b>Other</b>
10.01.2007.	10 % on dinar base, 45 % on foreign liabilities, 40 % on forex deposits, 20 % on subordinated liabilities		Forex reserves also in USD	Only working days calculated.
10.11.2007.	5% on dinar deposited on a month or longer, 45 % on dinar denominated liabilities (credit or deposits) from abroad.			
17.05.2008.			10 % of forex reserves are allocated in dinars.	Calendar days in reserve period calculated. Period is spanning from 18 <sup>th</sup> of reported month to 17 <sup>th</sup> of the next month.



**Current Controversies of the Central Bank Competences with Regard to its  
Traditional Functions**

17.10.2008.	A share of dinar and forex base coming from foreign liabilities (deposits or credits) taken as recorded on September 2008, if September level is lower. A share of base coming from forex savings taken as reported at 15 <sup>th</sup> of October.	20 % of forex reserves are allocated in dinars.
31.10.2008.	A share of base coming from forex savings taken as reported at 30 <sup>th</sup> of October, if in favor of a bank.	
18.11.2008.	A share of base coming from foreign currency savings is recalculated as recorded at 14 <sup>th</sup> of November, if more favorable for a bank.	
1.12.2008.	A share of base coming from foreign currency savings is recalculated as recorded at 14 <sup>th</sup> of November, or 30 <sup>th</sup> of October, if more favorable for a bank.	
17.12.2008.	A share of base coming from foreign liabilities (credit or deposits) is taken as recorded on September, unless September level is bigger than current level.	40 % of forex reserves are allocated in dinars.
17.03.2009.		The base excludes consumer loans approved under Government program.
17.06.2009.		The base excludes liquidity loans and loans for working capital approved under the Government program.
25.03.2010	5 % on dinar base, and 25% on forex base and dinar liabilities indexed with exchange rate.	

The policy of required reserves is one of the most effective instruments of monetary control, which most directly affects the primary liquidity of the banking sector. At the same time, it is an instrument that has at different times been directed to achieve different non-monetary goals: savings incentives (releases in the Savings Week), portfolio allocation (incentives for preferential investments), and control of foreign exchange risk (dinar liabilities indexed in foreign currency, with equal treatment as the foreign exchange base).

As we can see, before the crisis, in its mid, and in the months to follow, the required reserve policy was conducted to relax the pressure on the commercial banks. There had been no significant changes in the rate of required reserves until March 2010, when the liquidity crisis ceased. The major changes during the crisis were related to these two aspects of the policy.

Firstly, the borrowings from abroad were stimulated. For deposit and credit balance, larger than the balance before the crisis (September 2008), the National Bank of Serbia abolished the obligation for banks to allocate the reserves and kept it until a new Act was passed (December 2010).

Secondly, the change in rules considering the currency structure of required reserves was a main response to the disturbance of this type. The major problem of the Serbian banking sector in the autumn of 2008 was the outflow of foreign currency. Therefore, aside from the stimulation of the foreign exchange inflow, the immobilized part of foreign currency of banks decreased. The banks were allowed to distribute first 10 percent (in May), then 20 percent (in October) and finally 40 percent (in December) of required reserves for foreign liabilities in dinars. Foreign currency illiquidity of banks was thus transformed into dinar illiquidity that could be dealt with easily through simple reduction of banks' position in repo operations. Thus, the impact of defense of foreign currency liquidity on local currency depreciation was alleviated. If the NBS had not reacted this way, the high dinar liquidity of banks would have been the main source for defense of foreign currency illiquidity. By decreasing repo stock, the banks would have come by dinar liquidity, but that would have been followed by a huge pressure on tight currency market, leading to serious domestic currency depreciation.

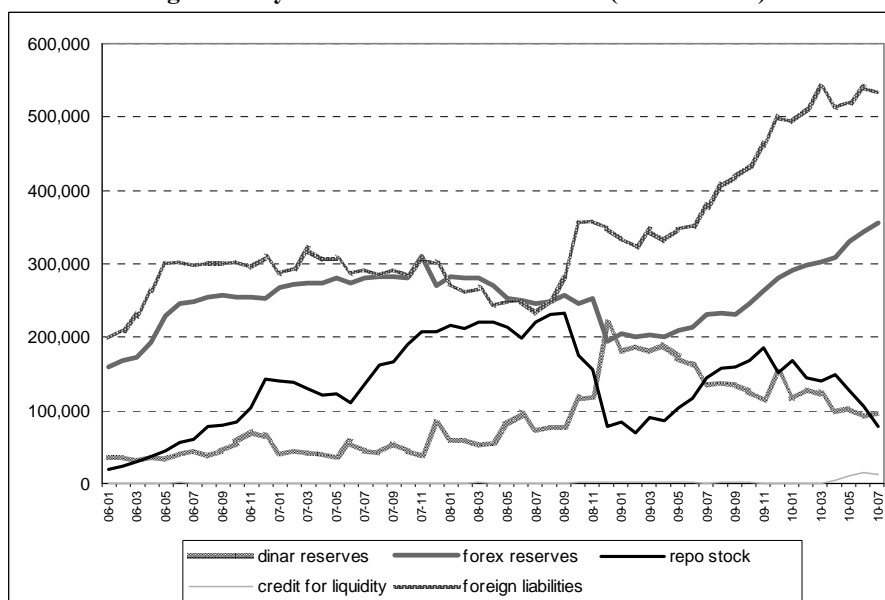
### **The choice of data and methodology**

By means of a statistical analysis the following developments are encompassed: banks' domestic currency reserves (**DIN\_RES**), foreign currency deposits at the NBS (**DEV\_DEP**), repo claims of the banking

### Current Controversies of the Central Bank Competences with Regard to its Traditional Functions

sector from the NBS (**REPO\_ST**), direct credit from the NBS (**CRED\_LQ**) and banks' foreign liabilities (**FORN\_LB**). Dinar reserves of banks represent the main source of primary dinar liquidity reserves in the local banking sector, comprising required dinar reserves, the giro account balance, treasury's cash and due, and deposit surplus placed at the NBS within deposit facilities of the NBS. Foreign deposits of banks in the NBS make foreign currency required reserve. Repo claims point to the state of the main mode of secondary liquidity reserves of the banking sector, credit liabilities of banks to the NBS represent the state of obligations of banks in terms of using credits for liquidity, while foreign liabilities of banks generally reflect the credit provided to local banks by their headquarters abroad. The movement of variables is shown in the figure below (2).

**Figure 2: Dynamics of selected variables (in mld. RSD)**



As the trend feature is rather strong, no encompassed time series reflects the characteristics of normal distribution, not even close to normal distribution (Table 2). The distribution is extremely skewed, with all time series, except with series of banks' foreign liabilities, where the skewness (0.81) is relatively close to acceptable thresholds ( $\pm 0.5$ ). Also, the distribution of all the variables shows kurtosis. According to this parameter, the series of banks' foreign obligations (4.61) is close to boundary value for normal distribution (3). The month in which extreme developments are registered is exhibited in parentheses.

**Table 2: Descriptive statistics of time series**

Variable	Levels (monthly changes)					
	Mean	Standard deviation	Skewness	Kurtosis	Maximum	Minimum
<b>Bank dinar reserves</b>	1,092	20,934	1.94	10.33	99,427 (12–08)	–37,359 (01–09)
<b>Bank forex deposits at NBS</b>	3,653	14,385	–1.64	9.27	37,176 (06–06)	–58,634 (12–08)
<b>Repo stock</b>	1,048	20,386	–1.44	6.37	38,975 (12–06)	–77,779 (12–08)
<b>Credit for liquidity from NBS</b>	212	1,195	2.54	10.85	5,346 (05–10)	–2,194 (07–10)
<b>Bank foreign liabilities</b>	6,181	19,182	0.81	4.61	76,503 (10–08)	–27,646 (01–08)

### Correlation analysis

The analysis of correlation between time series of values' monthly developments has been carried out on the basis of the assumption that there is a linear type of correlation. In the following tables (3–6), the correlation coefficients between analyzed variables, with the values of  $t$  – statistics (in parenthesis) are given parallelly. For series with the number of data lower than 30, the obtained values of test statistics have been compared to values of Student  $t$ –distribution, while for the value  $N > 30$ , the critical values of normal distribution have been used. High coefficient values of correlation are accompanied by high value of test statistics; hence, we can conclude that, with 99 percent ( $\alpha = 0.005$ ) of significance, we can reject  $H_0$ , meaning that there is no correlation between analyzed values. Correlation coefficients meeting the defined significance requirement are given in bold in tables.

The table below (3) concerns the correlation analysis for the period January 2006-July 2010 containing 54 data for each series. We will skip the economic considerations of obtained correlation values because they are the consequence of the integration of three subperiods with the correlation mechanism differing in each. Hence, we will give the economic explanation of obtained values for each subperiod individually.

**Current Controversies of the Central Bank Competences with Regard to its  
Traditional Functions**

**Table 3: The correlation matrix for the period January 2006 – July 2010**

<i>N</i> = 54	DIN_RES	DEV_DEP	REPO_ST	CRED_LQ	FORN_LB
DIN_RES	1.0000	<b>-0.6769</b> (6.6323)	<b>-0.7076</b> (7.2215)	-0.0054 (0.0395)	0.1470 (1.0717)
DEV_DEP		1.0000	<b>0.3994</b> (3.1423)	0.1442 (1.0510)	0.2601 (1.9425)
REPO_ST			1.0000	-0.1554 (1.1344)	-0.1356 (0.9872)
CRED_LQ				1.0000	0.0968 (0.7018)
FORN_LB					1.0000

When we divide the period into three subperiods, before the liquidity crisis, during the liquidity crisis and after the liquidity crisis, we can notice a significant difference in obtained correlation values. In the period of the *intensified* liquidity crisis (May 2008 – March 2009), the extremely high negative correlation values appeared between series of banks' dinar reserves and banks' foreign currency deposits (-0.9091), between banks' dinar reserves and repo claims (-0.8737), while there is a high and positive correlation between foreign currency deposits and repo claims (0.7437) as well as between liquidity credits and banks' foreign obligation (0.7573). High positive value of the last coefficient is the result of the fact that from the third quarter of 2008, aside from the last resort function in supporting banks, the credit support from parent companies from abroad has also been activated. With other variables, the correlation coefficients are not statistically important (Table 4).

**Table 4: The correlation matrix for the period May 2008 – March 2009**

<i>N</i> = 11	DIN_RES	DEV_DEP	REPO_ST	CRED_LQ	FORN_LB
DIN_RES	1.0000	<b>-0.9091</b> (6.5459)	<b>-0.8737</b> (5.3881)	-0.0015 (0.0045)	0.1972 (0.6036)
DEV_DEP		1.0000	<b>0.7437</b> (3.3378)	0.1763 (0.5372)	0.0984 (0.2966)
REPO_ST			1.0000	-0.2245 (0.6912)	-0.2788 (0.8710)
CRED_LQ				1.0000	<b>0.7573</b> (3.4793)
FORN_LB					1.0000

The analysis done for the period *before* the liquidity crisis (January 2006 – April 2008) shows lower, but still statistically important correlation

value between dinar reserves and banks' foreign currency deposits (–0.6009). Such value can explain the changes in currency structure of the banking sector's obligations. If the change is systematic than the changes in the currency structure of liquidity reserves will have a systematic character. It is evident that, in the period before the crisis, the eurization of balance sheet of the banking industry was enhanced. We should also pay attention to the coefficient of correlation between foreign currency deposits and banks' foreign obligations. The value of the coefficient is very close to the rate of required reserves for these assets sources. In the following periods, this regularity disappeared because of the changes in the required reserves policy.

**Table 5: The correlation matrix for the period January 2006 – April 2008**

<i>N</i> = 27	DIN_RES	DEV_DEP	REPO_ST	CRED_LQ	FORN_LB
DIN_RES	1.0000	<b>-0.6009</b> (3.7588)	-0.2986 (1.5645)	-0.0026 (0.0131)	0.0121 (0.0604)
DEV_DEP		1.0000	0.1911 (0.9738)	0.2138 (1.0944)	<b>0.4746*</b> (2.6962)
REPO_ST			1.0000	0.0908 (0.4560)	0.2132 (1.0911)
CRED_LQ				1.0000	0.1901 (0.9683)
FORN_LB					1.0000

Note: \* 98 percents of significance

The regularity noticed in the midst of the crisis disappeared in the period *after* the crisis lost its severity (April 2009 – July 2010). There is still high negative correlation between primary and secondary dinar liquidity reserves (Table 6). This is a consequence of gradual rebuild of repo stock at the expense of primary dinar reserves, as evidenced from February 2009.

**Table 6: The correlation matrix for the period April 2009 – July 2010**

<i>N</i> = 16	DIN_RES	DEV_DEP	REPO_ST	CRED_LQ	FORN_LB
DIN_RES	1.0000	-0.0925 (0.3476)	<b>-0.7644</b> (4.4366)	-0.0114 (0.0426)	0.2971 (1.1643)
DEV_DEP		1.0000	-0.1400 (0.5292)	0.1617 (0.6132)	0.2309 (0.8883)
REPO_ST			1.0000	-0.1976 (0.7544)	-0.0432 (0.1621)
CRED_LQ				1.0000	-0.2341 (0.9011)
FORN_LB					1.0000

## **Current Controversies of the Central Bank Competences with Regard to its Traditional Functions**

---

### **Conclusion**

Regardless of the organizational structure of the supervision function, the CB should always strive to secure both price and financial stability, even in those financial systems it has not been authorized to supervise. Numerous institutional changes have not significantly changed central banking. The CB remains a supreme monetary institution, as the only one capable of securing both monetary and financial stability.

The case analysis of the Serbian banking sector revealed that the high correlation values in the period of the liquidity crisis were the consequence of the way in which the banking sector responded to the illiquidity problem. The response was directed through decisions of the National Bank of Serbia, which recognized accurately the nature of the problem. The problem facing the banks in the midst of 2008 was characterized by foreign currency illiquidity. Necessary reserves of foreign currency were secured through deblocading required foreign currency reserves. However, as foreign currency reserves represent only part (cca 40 %) of banking foreign currency liabilities, it was not possible to secure all the assets necessary for covering the deficit. By changing the required reserves policy, the NBS enabled banks to allocate part of required foreign currency reserves in dinars (Table 1). The extremely high negative coefficient of correlation between banks' dinar reserves and banks' foreign currency deposits with the NBS (table 4) is the consequence of converting required foreign currency to dinar reserves. The enlargement of dinar reserves was secured through converting secondary dinar liquidity reserves into required dinar reserves. This explains extremely high negative correlation between banks' dinar reserves and repo claims that make the fundamental mode of banks' secondary reserves. In line with the described mechanism of responding, the decrease in repo claims coincided with the decrease in required foreign currency reserves. The internationalization of the domestic banking sector, aside from unfavorable initial effect, had a favorable effect on the banking sector's liquidity in the midst of a severe liquidity crisis.

### **References**

1. Abrams, R. and M. Taylor (2000) "Issues in the unification of financial sector supervision", IMF *Working Paper* No. 213
2. Bagehot, W. (1873) *Lombard Street: A description of the money market*, H.S. King, London (UK).
3. Cecchetti, S.G. and P. Disyatat (2009) „Central bank tool and liquidity shortages“, *Economic Policy Review*, Federal Reserve Bank of New York, August, 29–42.
4. Copelovitch, M. and D. Singer (2008) "Financial regulation, monetary policy, and inflation in the industrialized world", *Journal of Politics*, 70: 663–680.

5. Di Noia, C. and G. Di Giorgio (1999) "Should banking supervision and monetary policy tasks be given to different agencies?" *International Finance*, 2(3): 361–78.
6. Geraats, M. P. (2010), "Price and financial stability: dual or dueling mandates?" *38th Economics Conference of the Oesterreichische Nationalbank*, 56–63.
7. Goodhart, C, P. Hartmann, D. Llewellyn, L. Rojas–Suárez and S. Weisbrod (2001) *Financial regulation: why, how and where now?* Routledge, London (UK).
8. Goodhart, C. (1999) „Myths about lender of last resort“, *Special paper* 120, Financial Market Group, London School of Economics, London (UK).
9. Goodhart, C. (2000) "The organisational structure of banking supervision", *FSI Occasional Papers*, No. 1.
10. Goodhart, C. and D. Schoenmaker (1995) "Should the functions of monetary policy and banking supervision be separated?" *Oxford Economic Papers* 47: 539–560.
11. Keynes, J. M. (1936) 1973, *The general theory of employment interest and money*, The collected writings of John Maynard Keynes (Vol. VII), The Royal Economic Society, London (UK).
12. Odluka o obaveznoj rezervi banaka kod Narodne banke Srbije, *Službeni glasnik RS*, br. 12/2010.
13. Odluka o obaveznoj rezervi banaka kod Narodne banke Srbije, *Službeni glasnik RS*, br. 116/2006, 3/2007, 31/2007, 93/2007, 35/2008, 94/2008, 100/2008, 107/2008, 110/2008, 112/2008, 12/2009, 39/2009, 44/2009, 47/2009 i 111/2009.
14. Peek, J., Rosengren, E. and G. Tootell (1999), "Is bank supervision central to central banking", *Quarterly Journal of Economics*, 114: 629–653.
15. Peek, J., Rosengren, E. and G. Tootell (2009) „Is financial stability central to central banking?“ in *Reevaluating Supervisory, Regulatory, and Monetary Policy*, 54th Economic Conference of the Federal Reserve Bank of Boston, Chatham.

### **AKTUELNE KONTRAVERZE O NADLEŽNOSTIMA CENTRALNE BANKE U ODNOSU NA NJENE TRADICIONALNE FUNKCIJE**

**Rezime:** Rad predstavlja teorijsko-empirijsku analizu međusobne uslovljenosti tri osnovne funkcije centralnih banaka: funkcije monetarne regulacije, nadzora i posljednjeg utočišta banaka. Nakon pregleda osnovnih institucionalnih dilema, argumenata za i protiv institucionalne separacije i integracije funkcija, analiziramo slučaj nedavnog poremećaja likvidnosti u bankarskom sektoru Srbije. Razvijene su matrice korelacije za petogodišnje vremenske serije mesečnih podataka, kao i za podperiode: pre krize, u krizi i nakon krize. Utvrđeno je da je nedostatak likvidnosti rešavan gotovo isključivo politikom obaveznih rezervi, koja je prilagođavana prirodi šoka. Aranžmani posljednjeg utočišta banaka su igrali u najboljem slučaju drugorazrednu ulogu.

**Ključne reči:** monetarna politika, funkcija posljednjeg utočišta, kriza likvidnosti, bankarski sektor Srbije, korelacija kod vremenskih serija





UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"  
Year XLVIII, N° 4, 2010, p. 497 - 511  
Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš  
Phone: +381 18 528 601 Fax: +381 18 4523 268

## TIME-DRIVEN ACTIVITY BASED COSTING

Ljilja Antić, PhD\*

Mila Georgijevski\*\*

**Abstract:** *Activity-based costing is a costing method emerged as a response to the shortcomings of traditional costing systems. High costs of introducing and maintaining the ABC system and other difficulties in its implementation, have led to low rates of acceptance of this model. The paper analyzes the time-driven activity-based costing, a model that was created to eliminate the disadvantages of activity based costing.*

**Keywords:** *activities, costs, activity driver rates, time equations*

### Introduction

Activity-Based Costing (Activity-Based Costing – ABC) was introduced in the 80s of the twentieth century as a result of the efforts of accounting theory and practice to meet the information requirements of management in contemporary business. Changes in modern business conditions in the form of globalization, increasing competition, and implementation of new manufacturing technologies, shortened product life cycle and more sophisticated consumer demands, have led to changes in the company. Changes in organizational structure, production method, the length of product life cycle, structure and character of certain types of production costs, have led to the traditional cost method not providing reliable cost information. Specifically, traditional cost methods showed deficiencies related to the allocation of overhead costs.

Activity-based costing provides cost information that formed the basis for making long-term and short-term decision-making process. This paper describes the conceptual basis of this cost method. Through the

---

\* University of Niš, Faculty of Economics, E-mail:ljilja.antic@eknfak.ni.ac.rs

\*\* PhD student, University of Niš, Faculty of Economics

UDC 657.47, Review paper

Received: 19.11.2010. Accepted: 09.12.2010.

developmental stages of activity-based costing method, there is illustrated adjustment of cost method to changes in environment and user requirements. The second part is dedicated to the new phase of development of methods, time-driven activity based costing (Time-Driven Activity-Based Costing – TD ABC). This costing method provides prompt, accurate and detailed cost information that can be used for evaluation of activities effectiveness, resources and processes in the enterprise. Finally, the comparison of ABC and TD ABC method is given in the example of the department for providing services to customers of a hypothetical company.

### **1. Activity-Based Costing - Cost Accounting Method Appropriate to Changed Business Conditions**

Activity-based costing was introduced in the 80s of the twentieth century, and developed by American professors Robert Kaplan and Robin Cooper. However, the original concept of activity-based costing appeared earlier in companies Siemen AG (implementation started in 1975) and Schlafhorst (early '80s). This cost accounting method can be defined as "a costs, activities performance and cost drivers measuring method" [1, pp. 47]. Its base forms the cost allocation to activities based on their resources usage and assigning activity costs to cost objects. Activity-based costing recognizes the causal relationship between cost drivers and activities.

Activity-based costing is primarily aimed at overcoming the weaknesses of traditional cost accounting methods in respect to the allocation of overhead costs. Traditional costing methods pay too much attention to direct costs, that in contemporary conditions, make up a small percentage of total costs. In conditions when 50% of total production costs were direct labor costs, 35% were direct material costs and 15% were overall production costs, traditional cost accounting methods produced accurate information about product costs. However, the changes in contemporary business are inevitably influenced by the change in the production costs structure, so that general costs make 60% of total production costs, direct material costs 30%, and only 10% make direct labor costs. In these circumstances, the appropriate allocation of overhead costs to cost objects using traditional cost accounting methods was not possible. The allocation of increased mass of overhead costs on cost objects is done using the keys related to the production volume, although many of them were caused by the number of units produced [2].

Activity-based costing is based on the following assumptions:

### **Time-Driven Activity Based Costing**

---

- to produce a product or provide services it is necessary to perform relevant activities,
- to carry out the activities it is necessary to spend specified resources,
- activities are the basis for the cost allocation,
- cost drivers (resource drivers and activity drivers) don't need to be related to the production volume.

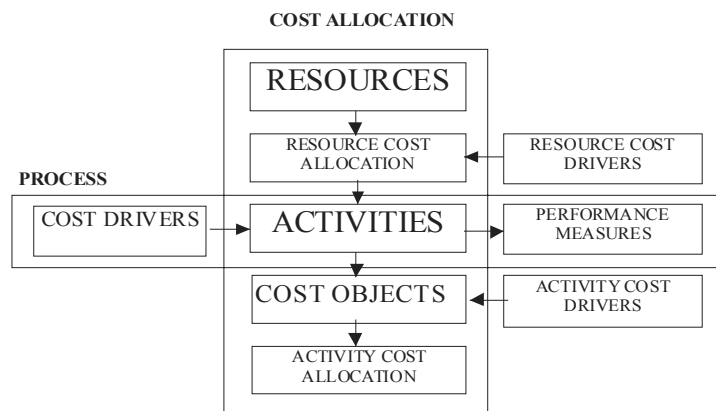
Unlike traditional cost accounting methods, the conceptual basis of which are narrower organizational units, the conceptual basis for costing activities are activities that are performed in the enterprise [3]. The allocation of costs is, similarly to traditional methods of calculation, performed in two phases. General costs are allocated primarily to activities (by traditional method to the immediate organizational units) by using resource costdrivers, and then from the activities to cost objects by using activity cost drivers. Unlike traditional cost accounting methods which commonly used keys related to the physical volume of production for allocation, when using the ABC methods there exist a variety of grounds that have nothing to do with the physical volume of production [4].

#### **1.1. Development Stages of Activity-Based Costing**

Activity-based costing has gone through two stages of development. In the first phase, activities costing sought to overcome the shortcomings of traditional cost accounting methods through the provision of more reliable information on products and services costs. Later, its use spread to the determination of cost, but also of non-financial information about the activities carried out in a company, aiming to provide a better information base for business and for implementation of appropriate management activities [5, pp. 133].

The original model of cost allocation based on activity-based costing model is called model of decomposition. This model is focused on costs allocation. By application of corresponding allocation keys, resources costs are assigned to the activities, and then they are allocated from activities to cost objects. Model of decomposition produces more precise information to determine the product costs, and also other information used for testing the profitability of products, customers, markets, decisions on product assortment, pricing, etc.. However, this model does not provide information that could be used for internal improvements. Information were not systematized in the way that would allow their use for analyzing costs and performance of activities.

The second generation of activity-based costing model, known as two-dimensional model of ABC or ABC Cross allows establishing connections between the cost allocation process and processes that take place in the enterprise, between activity-based costing and activity-based management, as well as between instruments that are necessary for analysis and implementation of improvements in the company. In the ABC Cross model, we can see the vertical dimension, which shows the cost allocation and the horizontal dimension which shows the process, as illustrated in the Figure 1.



**Figure 1. Two-dimensional activity-based cost model**

Source: Adopted: P.Tourney, Activity-based costing: The Performance Breakthrough, Kogan Page Limited, London, 2007, pp. 96.

The vertical dimension of the model allows obtaining information on the amount of costs of certain activities, opportunities for activities cost reduction, and information about the profitability of products and services. View of the process dimension provides information on the basis of cost allocation and performance measures for each activity or series of activities within the process [6, pp. 4].

### **1.2. Problems of Acceptance and Implementation of Activity-Based Costing**

Empirical data on the degree of acceptance and implementation of activity-based costing have shown that a small percentage of companies around the world use this method of cost accounting. Surveys conducted in the service sector has shown that the model is applied to [7, pp. 51]:

- 10-20% companies in the U.S., Britain and other Western European countries,

### **Time-Driven Activity Based Costing**

---

- about 7% of companies in Japan,
- in only a few companies in Poland.

The low acceptance rate of activity-based costing is surprising, having in mind the fact that this method provides information about costs and products, customers, services and processes profitability of a company, and provide more reliable cost information. It was observed, as well, that after the implementation of activity-based costing in some companies, it was soon abandoned.

In some companies the implementation of activity-based costing has failed or was dismissed during the implementation, due to the behavioral and organizational resistance that accompanies any new ideas, especially ones that seem radical in its treatment of most organizations as well as variable costs and justify the existence of unprofitable customers [8, pp. 85-105]. Implementation of this model was long and expensive, system maintenance was complex, and the model was rigid. Accuracy of cost allocation to activities and products has been questioned, since it was based on subjective evaluations of employees on the percentage of time spent on carrying out different activities and operations. Therefore, managers were spending much of their time on subjectivity elimination from the assessment and on calculations adjustments, instead on finding ways to increase the effectiveness of the process, product profitability, customer and capacity utilization.

One of shortcomings of the ABC method refers to the use of unique basis for the cost allocation for each activity, but it happens in practice that activities may have more basis for the cost allocation. For example, the cost of receiving customer orders does not depend only on the number of orders received, but also on the kind of customers (existing and new). Usage of the the received order average cost to calculate the costs does not provide accurate information. The solution can be found in splitting one activity of receiving orders into the two activities (receiving orders from the existing customers and receiving orders from new customers). However, such a procedure leads to the increase in the number of activities in the model and its getting more complex. Additional complexity causes model expansion by adding new activities due to changed business circumstances. This entails the need for re-interviewing employees about their evaluation of the percentage of time spent on carrying out new activities, so that activity based costing becomes more subjective, more complex and inaccurate.

Often, activity-based costing could not be applied in the business of the entire company. For individual organizational units, departments and

factories there were made individual, isolated models, so the company could not gain a holistic insight into costs and profitability.

Based on the aforementioned, the following problems in ABC method implementation can be summarized [9, pp. 8]:

- the interviewing and surveying process was time-consuming and costly,
- the data for the ABC model were subjective and difficult to validate,
- the data were expensive to store, process, and report,
- most ABC models were local and did not provide an integrated view of enterprise-wide profitability opportunities,
- the ABC model could not be easily updated to accommodate changing circumstances (changes in used resources and performed processes, adding new activities, increasing diversification and complexity of individual orders, channels and customers and so on.),
- the model was theoretically incorrect when it ignored the potential for unused capacity.

## **2. TD ABC – Improved Activity-Based Costing Model**

TD ABC method was developed to overcome the inadequacies of the ABC method. It is “simpler, less costly, and faster to implement, and allows cost driver rates to be based on the practical capacity of the resource supplied” [11, pp. 5].

The process of cost calculating within a TD ABC implies somewhat different methodology than the ABC method [12] and involves the following stages [13, pp. 11]:

- 1) identifying the resources necessary to carry out activities,
- 2) calculate the total cost of all resources,
- 3) calculate the practical capacity of each resource expressed as the number of working hours,
- 4) calculation of resource costs per time unit (total cost of adequate resources shared by the practical capacity expressed in hours),
- 5) calculating the duration of each activity, based on the time equations and characteristics of these activities,
- 6) calculate the activity costs by multiplying the resources costs per time unit with the amount of time required to perform the services.

Therefore, a new approach to activity-based costing does not include subjective, time-consuming and costly surveying and interviewing employees to obtain information about activities. The first stage involves

### Time-Driven Activity Based Costing

---

identifying different groups of resources and their quantities, necessary for activities performance. Then the total resources costs are determined. Practical capacity is frequently estimated as a percentage, say 80% or 85% of theoretical capacity. That is, if an employee or machine normally can work 40 hours per week, practical capacity could be assumed to be 32 hours per week. This estimate allows for 20% of personnel time for breaks, arrival and departure, communication and reading unrelated to actual work performance, and 20% of machine time for downtime due to maintenance, repair and scheduling fluctuations [11, pp. 6]. Calculation of the resource cost per time unit is based on the following equation (practical capacity of resources expressed by the number of working hours):

$$\text{Resource cost per time unit} = \frac{\text{Costs of available capacity}}{\text{Practical capacity of available resources}}$$

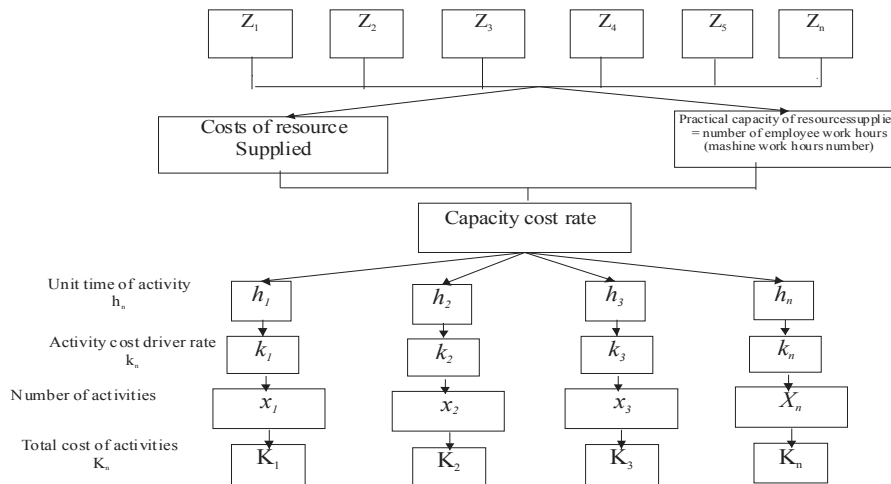
Time needed to perform each activity in the ABC method was considered to be the same for each activity performance process, such as the number of machines prepared, orders number, etc.. TD ABC requires calculation of time required to perform each activity through direct observation or by conducting interviews.

The last phase of activity based costing involves activity costs calculation based on the following equation:

$$\text{Activity performance costs} = \text{Resources costs per time unit} \times \text{Number of time units necessary for the activity performance}$$

The activities cost calculating procedure based on TD ABC method can be displayed in the manner, as illustrated in the Figure 2.

Figure 2: Cost calculation procedure based on TD ABC



Source: Adapted: Szychta A., Time-Driven Activity-Based Costing in Service Industries, Social Sciences, Nr. 1, 2010, pp. 54

$Z_n$  – economic resources: personnel, fixed assets, materials and services,  
 $h_n$  – unit time of activities performed in the enterprise,  
 $k_n$  – activity cost driver rates,  
 $x_n$  – number of activities,  
 $K_n$  – total activity costs.

As shown in the Figure 2, the available capacity costs should be determined first, and then the available resources practical capacity. The capacity cost rate is obtained by dividing the cost of available, theoretical capacity of resources, by the practical capacity of resources. Information about the unit time required to perform each activity in the company  $h_n$  are obtained through observations or interviews. Subsequently, by multiplying activity unit time by unit cost of capacity, the activity cost driver rate  $k_n$  is obtained. The activities cost driver rate is used, together with information about the number of completed activities for the reference period, to calculate the total cost of activities  $K_n$ .

Initial activity-based costing starts from a simplified assumption that the performance of one type of activity always require the same amount of time. However, with most activities this is not the case. In such a way, for example, not all customers orders are the same and do not require the same amount of time for processing. TD ABC includes variations in the time demand in cost calculation, depending on the characteristics of the activity, orders receiving in this case.



### Time-Driven Activity Based Costing

---

Companies can often specify which of the activities will be easier and which ones more complex to perform, as well as which of the activities will require more time. For example, orders can be received via a company website, by phone or in direct contact with the customer. If we get an order online, via the company web site, orders receipt may last only 10 minutes. If we get an order by phone, it is necessary to enter all the information, so the activity of receiving orders may require additional 10 minutes. Receipt of orders in direct contact with customers will require the largest amount of time, additional 20 minutes. In order a company would not define new activities for all possibilities of activities performance in receiving orders, TD ABC introduced time equations for each activity type.

Time equations are simple linear equations which include time required to perform the standard variant of activities, and additional amounts of time, depending on the characteristics of the activity. In general form, time equation for a given activity is function of  $n$  potential factors differentiating this activity which is expressed in the following way [15, pp. 31]:

$$T = \beta_0 + \beta_1 X_1 + \dots + \beta_n X_n,$$

where:

$T$  – the time needed to perform an activity,

$\beta_0$  – standard time for the basic activity performance,

$\beta_i$  – the estimated time for the activity performance  $i$ , ( $i = 1, \dots, n$ ),

$X_n$  – the quantity of incremental activity  $i$ , ( $i = 1, \dots, n$ ).

Calculation of the time necessary to perform certain activities assumes the standard definition of a standard activity completion time, time for its possible variants, and factors affecting it. Total time required for the activities performance is obtained by adding the standard time to the time needed for the necessary additional activities performance.

If the company has the ERP system<sup>1</sup>, with the use of data about orders, customers and other data necessary for the application of TD ABC, calculation of the time necessary to perform various activities can be simple. The time equations, as well, are constantly changing depending on the characteristics of new activities, which affects the accuracy of the TD ABC.

---

<sup>1</sup> ERP (Enterprise Resource Planning System) is an integrated system based on company's computer system. ERP is used to manage internal and external resources, including material and financial resources and human resources. His goal is to facilitate information flow between business functions within the company and communications with external stakeholders.

Time equations in the TD ABC models enables managers to perform simulations of the future. The equations include the basic factors that cause demand for the capacity of the process, including changes in the efficiency of the process, scope and mix of production, customer ordering patterns and the mix of channels [14, pp. 3]. By changing the parameters in the equations, there can be done what-if analysis of future demand and its impact on the cost and amount of resources to be provided to carry out the necessary level of activities.

The TD ABC method has the following advantages [9, pp. 14-15]:

- easier and faster to build an accurate model,
- integrates well with data now available from ERP and customer relationship management systems (this makes the system more dynamic and less people-intensive),
- drives costs to transactional and orders using specific characteristics of particular orders,
- can be run monthly to capture the economics of the most recent operations,
- provides visibility to process efficiencies and capacity utilisation,
- forecasts resource demands, allowing companies to budget for resource capacity on the basis of predicted order quantities and complexity,
- is easily scalable to enterprise-wide models via enterprise-scalable applications software and database technologies,
- enables fast and inexpensive model maintenance,
- supplies granular information to assist users with identifying the root cause of problems,
- can be used in any industry or company with complexity in customers, products, channels, segments, and processes and large amounts of people and capital expenditures.

TD ABC model uses data that already exist in the company's ERP system, quickly and easily adds new activities and includes changes due to changed business conditions - increasing resource prices, increased efficiency in performing activities as a result of re-engineering business processes, introducing new production technologies and so on. Also, including different order characteristics, processes, suppliers and customers as the factors of time parameters of the equation, TD ABC provides more accurate allocation of costs. As the model uses two parameters, cost of performing activities and time required to perform activities, it can easily and quickly be updated, it is possible to provide monthly reports on the

### **Time-Driven Activity Based Costing**

---

amount of costs and efficiency of the process. Based on the information produced by the model, the percentage of capacity utilization can be determined, as well as the possible existence of bottlenecks. By changing the parameters in the model, in the time equations, predictions which are the basis for funds budgeting can be made, as well as analysis of opportunities and threats for the company. TD ABC model can be easily adapted and applied in different plants of one company and in other enterprises from the same industry. This greatly helps to reduce the implementation costs of TD ABC. Cost information produced by this model were more exact and more accurate than those provided by traditional ABC model. Cost figures that TD ABC produces are objective, obtained from real time need to perform activities, not based on subjective evaluations of employees on the percentage of time they spend on their execution. Also, the obtained information can be used to determine customer profitability and to identify procedures that could lead to improvements.

Weaknesses of TD ABC model are [15, pp. 42-44]:

- availability of reliable and robust duration drivers,
- understanding variances in duration drivers,
- data collection,
- volume of data.

The accuracy of the information that TD ABC model produces is directly dependent on the availability, reliability and timeliness of data. Data on the time required for the performing of activities must be exact because even small deviation from a few seconds per performed activity of processing orders, for example, in a situation where the company made 100,000 processing customer orders can cause significant discrepancies in the cost exactness.

TD ABC method must determine precise reasons why we need more time for the performance of some activities. The errors may occur in time equations if it is determined that the execution of activity of processing complaints of new customers, for example, takes twice as much time compared to processing of complaints of the existing, well-known customers if the processing of the first kind of appeal is done by an employee with no experience. This can cause significant errors in time equations of the model. The precision and caution in generating the model parameters is very significant.

Although TD ABC model reduces the time required to obtain information on the time required to perform activities, that are in the traditional ABC model received on the basis of lengthy and costly interviews

of employees, it takes time to update the model. For accuracy of the model it is necessary to include constantly changed conditions, changes in the duration of activity, re-calculate the time equations. If the data is not obtained with the help of an automated system it is necessary to perform interviewing of management, employees and other stakeholders, which is a lengthy process.

Storage of large amount of data that TD ABC produce, especially if it is applied on a monthly basis, requires large databases and powerful software tools necessary for producing a report. Although TD ABC allows obtaining detailed information about each product, customer or process and order, to avoid the waste of organizational resources, it is necessary to determine information priorities and determine what data is essential for making strategic and operational management decisions, as well as forecasts for future business.

### **3. Comparison of the ABC and TD ABC Methods**

The difference between ABC and ABC TD methods in determining the rate of activities cost allocation will be illustrated on the example of the department for providing services to customers of a hypothetical company "A" which performs the following activities [example amended by 11]:

- processing orders,
- processing customer complaints,
- orders modification.

Assume that the cost of resources necessary to perform these activities is 200,000 din. per quarter. The allocation of the total cost for these activities, according to the employees estimation, is as follows - 70% for the activity of orders processing, 20% for customers complaints processing the activity and 10% for customers orders modification activity. During the analyzed period, there were identified:

- 4 000 customer orders,
- 200 customer compalaints,
- 160 orders modifications.

Table 1. illustrates activity cost driver rates determination on the basis of activity-based costing.

### Time-Driven Activity Based Costing

**Table 1. Determining the activity cost driver rates using the ABC method**

Activities	Activity cost driver quantity	Percentage of total costs	Costs (din.)	Activity cost driver rates
Processing orders	4 000	70 %	140 000	35 din./order
Processing customer complaints	200	20 %	40 000	200 din./complaint
Orders modifications	160	10 %	20 000	125 din./order change
<b>Total</b>		100 %	200 000	

As seen from Table 1. estimation of employees is used to determine how the costs of resources are related to the performance of individual activities.

For cost allocation in the new approach of activity-based costing, we must consider the additional assumptions. For example, out of 40 workers in the customer service department who work 8 hours a day, each of them has got 9600 minutes available every month, which is the theoretical capacity. Practical capacity is 80% of theoretical capacity, or 7,680 minutes per employee per month, that is, 307,200 minutes for 40 employees in the department. Estimated time required to perform the activities is 40 minutes for processing an order, 240 minutes for processing customer complaints and 170 minutes for modification of customer orders.

It is necessary to calculate the amount of costs per minute, which is obtained by dividing the total cost of time required to perform all activities (200,000 din. / 307 200 min.  $\approx$  0.65 din./ min.).

Based on these data, and according to TD ABC method, there can be calculated the activity cost driver rate, as illustrated in the Table 2.

**Table 2. Determining the activity cost driver rates using the TD ABC method**

Activities	Activity cost driver quantity	Unit time (min.)	Total time (min.)	Costs per minute (din.)	Costs (din.)	Activity cost driver rates
Processing orders	4 000	40	160.000	0.65	104.000	26 din./order
Processing customer complaints	200	240	48.000	0.65	31.200	156 din./complainta
Orders modifications	160	170	27.200	0.65	17.680	110,5 din./order change
<b>Total</b>			<b>235.200</b>		<b>152.880</b>	

The analysis reveals that only 77% of practical capacity has been used, or 235,200 minutes of 307 200 minutes available for the workers. Also, only 76% of total costs, or 152,880 din. of 200,000 din., were allocated

to activities in this period. According to the ABC method the costs for performance of all activities have been overestimated, because they included the costs of unused capacity. Costs and efficiency of activities performance can be seen better through a new method of activity based costing, because by using it, we can verify the existence of unused time, 72.000 minutes, compared to the practical capacity of working time and its costs, which amounted to 47,120 din..

Activity-based costing starts from a simplified assumption that the performance of one type of activity always require the same amount of time. In order to compare these two methods, we have kept this assumption in the example.

### **Conclusion**

Since its appearance in the 80s of the twentieth century activity-based costing is used to obtain information on costs, product, customers, market profitability, decisions on product assortment, pricing, etc.. However, the disadvantages which he demonstrated during the implementation and use in many companies around the world, and especially in the large manufacturing and service companies, led to the emergence of new cost models. The solution has appeared in the form of time-driven activity-based costing.

TD ABC method allows overcoming the difficulties that exist with the ABC method. It uses time as the primary basis for allocating costs to products, orders, customers, which significantly simplifies and speeds up the process of obtaining information about the costs. New feature that the TD ABC introduces are time equations that allow greater flexibility and updating, and in that sense, it is not surprising that in over 200 companies there was successfully implemented the time-driven activity-based costing.

### **References**

1. Tourney, P.B., Stratton, A.J., Using ABC to Support Continuous Improvement, Management Accounting, 1992.
2. Više o nedostacima klasičnih metoda obračuna troškova videti: Antić, Lj., Uzroci i simptomi nefunkcionalnosti klasičnih metoda obračuna troškova u savremenim uslovima poslovanja, Teme br. 4, 2009.
3. aktivnostima kao konceptualnom osnovu obračuna troškova videti: Antić, Lj., Aktivnosti - novi konceptualni osnov obračuna troškova, Računovodstvo br. 9-10/2004.
4. Više o tome videti: Antić, Lj., Komparativna analiza obračuna troškova po aktivnostima i klasičnih metoda obračuna troškova, Ekonomske teme br. 1-2, Niš 2004.

### Time-Driven Activity Based Costing

---

5. Dr Ljilja Antić, Upravljanje preduzećem zasnovano na aktivnostima, XXXVI simpozijum SRRS „Računovodstvo i poslovne finansije u savremenim uslovima poslovanja – stanje i perspektive”, 2005.
6. Yilmaz, R., Creating The Profit Focused Organization Using Time-Driven Activity Based Costing, EABR & TLC Conferences Proceedings, 2008.
7. Szyhta, A., Time-Driven Activity-Based Costing in Service Industries, Social Science Nr. 1, 2010.
8. Cooper R., Kaplan R. S., Cost and Effect: Using Integrated Cost Systems to Drive Profitability and Performance, Harvard Business Press, 1998.
9. Kaplan R.S., Anderson S.R., Time-driven Activity-based costing: A Simplier and More Powreful Path to Higher Profits, Harvard Business School Press, 2007.
10. Everaert P., Bruggeman W., Sarens G., Anderson S., Levant Y., Cost modeling in logistics using time-driven ABC, Experiences from a wholesaler, International Journal of Physical Distribution & Logistics Management, Vol. 38 No. 3, 2008.
11. Kaplan R., Anderson S., Time-Driven Activity-Based Costing, <http://hbswk.hbs.edu>, 2003.
12. Više o metodologiji obračuna troškova po aktivnostima videti: Antić, Lj., Obračun troškova po aktivnostima, XXXIV Simpozijum SRRS na temu "Računovodstvo i menadžment u novom poslovnom okruženju", Zlatibor 2003.
13. Dumitru, M., Calu D.A., Contabilitatea de gestuine si calculata costurilor, Editura Contaplus, 2008.
14. Barrett R., Activity-Based Costing: Innovative methods to decrease costs and increase profitability, Journal of Insurance Operations, Volume 1, Number 2, Perr & Knight, 2007.
15. Gilbert S. J., Adding Time to Activity-Based Costing, HBS Working Knowledge, 2007.

### OBRAČUN TROŠKOVA PO AKTIVNOSTIMA ZASNOVAN NA VREMENU

**Rezime:** Obračun troškova po aktivnostima je metod obračuna troškova nastao kao odgovor na nedostatke tradicionalnih sistema obračuna troškova. Visoki troškovi uvođenja i održavanja ABC sistema i druge poteškoće u njegovoj primeni, doveli su do niske stope prihvatanja ovog modela. U radu se analizira obračun troškova po aktivnostima zasnovan na vremenu, model koji je nastao kako bi se otklonili nedostaci izvornog koncepta obračuna troškova po aktivnostima.

**Ključne reči:** aktivnosti, troškovi, uzročnici aktivnosti, vremenske jednačine







UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"

Year XLVIII, N° 4, 2010, p. 513 - 527

Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš

Phone: +381 18 528 601 Fax: +381 18 4523 268

## THE PLANNING OF THE RESERVES OF THE REPRODUCTIVE MATERIAL IN ORDER TO PROVIDE THE CONTINUITY OF THE PRODUCTION PROCESS

**Slavica Cvetković, PhD\***  
**Jorda Radosavljević, PhD\***

***Abstract:** This paper shows the model of supply management within a concrete manufacturing chain. It gives some theoretical basis for the model developed from the aspect of different real supply management conditions within the supply chain. It also defines the basic concept of the objectively oriented approach and the example of the supplies determination under real manufacturing conditions in a Business Manufacturing System (BMS).*

***Keywords:** Inventory control, supply chains, production planning, genetic algorithm.*

### 1. Introduction

Reserves represent raw materials, half-finished goods-which are called the unfinished production of the finished goods, which are kept by one organization for its operative needs. As such, the reserves represent a significant investment and a potential source of the waste material, which should be controlled very carefully. The process of social reproduction, viewed from the macro aspect, in most cases isn't a homogeneous, continual process, and in some phases already has disparities. Those disparities can be:

- Time (intertemporal),
- Space (interlocal),
- Qualitative,
- Quantitative.

---

\* Faculty of Technical Science, Kosovska Mitrovica, E-mail:smijoc@yahoo.com

UDK 005.932, Review paper

Received: 19.01.2010. Accepted: 15.11.2010.

Reserves, as an economic category, appear at different places in the reproduction process, at different time, different shape and different structure. Each of the shapes of the reserves aims to help in overcoming the mentioned disparities. The reserves mostly manage to fulfill that task, but, with many oscillations in the effects. Namely, sometimes they are an obstacle to the further process of reproduction, and in most cases, they represent a difficulty to that process.

Because of the previously mentioned statements, the reserves can be defined in the following way: the quantity of the raw materials, additional parts, tools, devices, half-products and finished products can be considered reserves in a general case.

The function and the basic aim of the reserves are to provide a continuous and rational run of the whole process of the social reproduction. The reserves cannot fulfill this aim only if there aren't enough of them and of the proper quality in the storage. However, they fulfill this aim when there are optimal amounts and higher of them in the storage.

The task of the supply service is to provide a certain level of reserves, the optimal amount of them and a satisfying quality. So, the level of the reserves which is higher than the optimum, as well as the level which is lower than the optimal one, indirectly reflects the quality of the enterprise's business.

From the aspect of marketing, the optimal level of the reserves is easier to make with the reserves which serve as reproduct material, than with the reserves of the finished products, which serve directly to the consumed maturity. There is a different approach to the production of these reserves because of the problems in planning the needs. In the production process with less risk, we make the plan of the needs of the reserves. Along with many factors which make the making of the reserves of finished products much harder, we will mention several: competition, price, transport, the research of the market, the communication marketing etc. In a market enterprise which deals only with the circulation and doesn't have any additional activity (packing, marking, finishing etc.), its reserves of the goods can be considered as the finished-goods reserves.

At the optimal level of reserves, among other, the type of the production and the size of the production series have a significant effect. If the series is bigger, the price of the products is lower, but the costs of the production are higher. All the previously mentioned problems, and many other which are not listed, request both the professional and the scientific

## **The Planning of the Reserves of the Reproductive Material in Order to Provide the Continuity of the Production Process**

---

approach. In that sense, there are many models and methods which deal with this problem.

The aim of our interest in finding the solution to this problem is also to show one qualitative-quantitative model with which we can come to an optimal solution very easily. We took minimal overall costs of the supplies for a previously determined time interval.

### **2. The Management of the Supply Chain**

The supply chain consists of all included phases, directly or indirectly, with the fulfilment of the requests of customers. The supply chain includes not only manufacturers and suppliers, but also the transport, storage, selling and customers. Within each organisation, like a production one, the supply chain includes all the functions which are a part of the process of fulfilment the requests of customers. These functions include the development of new products, marketing, operations, distribution, finance and customer services.

The supply chain is dynamic and embraces the continuous runs of information, products and means between different phases. Each phase in the supply chain runs different processes and interacts with other phases of the supply chain.

- Buyers,
- Retail,
- Sale/distribution,
- Manufacturers and
- Components/raw materials suppliers.

The aim of each supply chain is to maximize overall generated value. For most commercial supply chains, the value is in close correlation with *the profitability of the supply chain*, through the difference between the income generated by the buyer and overall costs along the supply chain. For the supply chain, the only source of income is the buyer. The success of the supply chain should be measured by its profitability, and not by the individual phase profit.

#### **2.1 The Phases of Making Decisions in the Supply Chain**

A successful supply chain demands several decisions connected to the run of information, products and resources. These decisions make three categories or phases, depending on the frequency of each decision and time frame in which the decisions have some effect.

## 2.2 The Strategy or the Design of the Supply Chain

During this phase, the enterprise makes a decision about the structure of the supply chain. It defines the configuration of the supply chain and the processes in each phase. The decisions made in this phase are also called strategic decisions in the supply chain. The strategic decisions imply the location and capacities of the production and storage departments, the products which will be produced or stored at different locations, the means of transport which will be used and the type of the information system which will be used. The enterprise has to ensure that the configuration of the supply chain supports the strategic goals during this phase.

## 2.3 The Planning of the Supply Chain

As a result of the planning phase, the enterprises define the pack of operation traits which manage the short-term operations. The configuration of the supply chain determined in the previous phase poses the limits among which the planning has to be done. The enterprises start planning with predictions for the coming year at different markets. The planning implies the decisions dealing with the markets which are going to be supplied and at which locations, the agreements between the manufacturers, the policy of the supplies, the policy which will be established according to helping locations in case there is a reserve shortage, and time and volume of the marketing promotion. Within this phase, the enterprises have to imply the independent market, course rates for the exchange and competition during this time horizon.

## 2.4 The Operation of the Supply Chain

The time horizon is here divided into weekly and daily, and during this phase the enterprises make decisions which deal with the individual orders of the buyers. At the operative level, the configuration of the supply chain is considered to be fixed, and the traits already defined. The goal of the operations of the supply chain is for the traits to be implemented in the best possible way. During this phase, the enterprises manage the individual orders for the production or storage, make terms for deliveries, generate the list of orders in the storage, make orders for filling. Because the operative decisions are made in the short run (minutes, hours, days), there is a small suspense in the information about the orders. The aim of this phase is to use the cut of that suspense and optimize the performances in view of the limits in the established policies of the configuration and planning

*Competition strategy* of an enterprise defines a pack of needs which it aims to satisfy through its products and services. *The strategy of the supply*

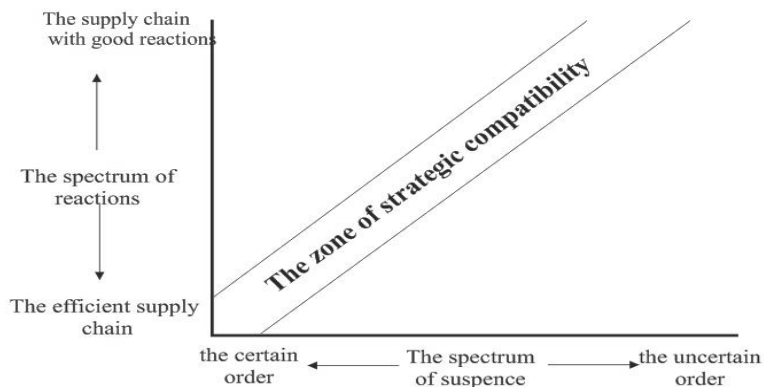
**The Planning of the Reserves of the Reproductive Material in Order to Provide the Continuity of the Production Process**

*chain* determines the nature of procuration of raw materials, of the transport of the material to and from the enterprise, the production of the product or the operation for giving services and distribution of the products to the buyer, together with all following services. The decisions about the reserves, transport, locations and the flow of information in the supply chain are a part of the unique strategy of the supply chain.

The strategic compatibility means that the competition strategy and the strategy of the supply chain have the same goal. That relates the consistency between the priorities of a buyer which the competition strategy is designed to fulfill and the possibilities of the supply chain which the strategy of the supply chain tends to build. There are three basic steps for achieving the strategic compatibility:

1. **Understanding the buyer.** First, the enterprise has to understand the needs of the buyer for each goal segment. These needs help the company to define wanted costs and requests for services.
2. **Understanding the supply chain.** There are many different types of the supply chain, and each of them is designed to do certain tasks in an effective way. The enterprise has to understand what for it designs its own supply chain.
3. **Achieving the strategic compatibility.** If there are any incompatibilities between the things which the supply chain does good and the needs of the customers, the enterprise has to restructure the chain in order to support the competition strategy, or to change its own strategy.

Graphic 2.1, shows the zone of the strategic compatibility.

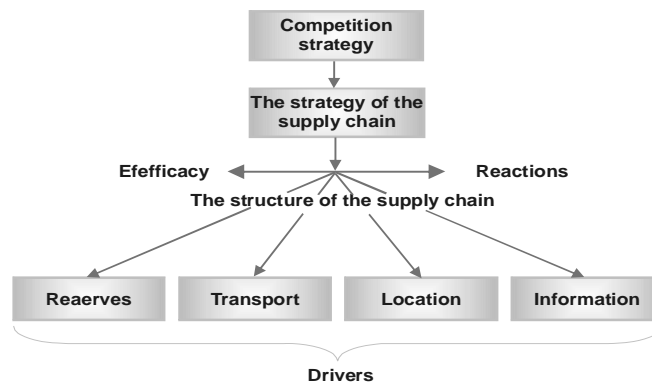


**Graphic 2.1 The zone of strategic compatibility**

The domain of strategic compatibility relates the functions and phases within the supply chain which coordinate the strategy and relate thmutual goal. When the domain is narrow, the individual functions focus on the optimization of their own performances based on their own goals. This kind of practice often results in conflict actions along the supply chain which lessen the overall contribution of the supply chain. As the domain of strategic compatibility is widened to the whole supply chain, the actions are based on their effect on the performances of the whole supply chain, which helps in maximizing the overall effect of the supply chain.

The enterprise which has achieved the strategic compatibility found the right balance between the reactions and efficacy (Graphic 2.2). Each of the drivers affects the balance. A bigger number of departments, in general case, contributes to a better reaction of the supply chain, while only few central departments creates higher efficacy. The investment in the information, that is in the information system, can significantly improve the supply chain in both directions. However, at some moment the managers of the supply chain should determine whether the improvement of the benefits from the information to the supply chain could justify bigger costs of the information.

A bigger variety of the products, a shorter life cicle of the products, buyers with greater and greater requestrs and the global competition make the creation of the strategy of the supply chain even harder because these factors can lessen the performances of the supply chain. A bigger globalization in the supply chains and the fragmentation of the ownership in the supply chains, also make the performance of the strategy of the supply chain harder.



Graphic 2.2 The frame of the decision making in the supply chain

## **The Planning of the Reserves of the Reproductive Material in Order to Provide the Continuity of the Production Process**

---

### **3. The Model of Reserves**

The theoretic model of the reserves is defined in the system where the manufacturer orders raw material, and then, through the production process, changes the material into a finished product, which is eventually delivered to the customer. The variable which is observed and according to which the minimal costs of the observed model are calculated is the variable  $Q$ , which represents the amount ordered by a customer per one order (that is the amount which is at once distributed to the storage of the finished material in the market centre). The goal of the model is to get the optimal value of the variable  $Q$ , for which the value of the overall costs of the observed supply chain is minimal (TC).

The limits of the model are:  $D = \text{const}$ ;  $P = \text{const}$ .;  $P > D$ ;  $(G) \neq f(Q)$ .

The marks used in the model are:

$D$  –the annual amount of finished products which is needed by the buyer, (t/annually),

$P$  –the amount which can be produced by the manufacturer in a year time (t/annually),

$D_r$  –an annual need for the raw materials in the production (t/annually),

$f = D/D_r \leq 1$ , the factor of the conversion of raw materials into the finished products

$A$  –the costs of the orders of the buyer (that is, the costs of the distribution to the distribution centre),

$S$  –the costs of the production preparations of the manufacturer

$G$  – the costs of the ordering of raw materials

$C_q$  – the costs of managing the reserves of the buyer per one unit of the finished product, din/t

$C_v$  – the costs of managing the reserves of the manufacturer per one unit of the finished product din/t,

$C_R$  – the costs of managing the reserves of the manufacturer per one unit of the raw material din/t,

$r$  – the annual capital investment in the reserves

$Q$  – the amount ordered by the customer at once, t/order

$Q_M$  – the amount produced in the production cycle, t/cycle

$Q_R$  – the amount of the ordered raw material, t/order

$T_C$  – the overall costs of the observed supply chain, din/annually

Only variable  $Q$  is observed as the decision changing, while  $Q_M$  and  $Q_R$  are tied to  $Q$ , according to relations:  $Q_M = (n+1)Q$ ;  $Q_R = kQ_M/f = k(n+1)Q/f$ . Where:  $n$  is the relationship between the ordered products by the buyer and the amount of the products which are produced by the

manufacturer.  $\forall n = 0$  is about the *just-in-time* production;  $\forall n > 1$ , the manufacturer produces more finished products than ordered, so he keeps the part of it as a reserve.  $K$  is the relationship between the ordered amount of the raw materials and the amount spent by the manufacturer in the production cycle, where  $k$  equals  $(1,2,3,\dots, m) \cup (1,1/2,1/3,\dots,1/m)$  and  $m$  is the whole number.  $\forall k = 1$ , the amount of the ordered material equals the amount needed for one cycle of production;  $\forall k > 1$ , the amount ordered is bigger than the amount needed for the production cycle so a part of the material is kept as the reserve;  $\forall k < 1$ , the amount of the ordered material is less than the amount needed for the production cycle, so during the cycle there has to be an additional ordering of the goods, according to the model of urgent orders. In this way, we can consider the flexibility of the supply chain itself, because only with flexible supply chains the changes of  $n$  and  $m$  are possible, according to the market requests. According to the defined limits, we have developed the following equations of the model for different terms of business:

Case 1: ( $k \geq 1$ ;  $k \in (1,2,3,4,\dots,m)$ )

$$TC(m,n,Q) = \frac{D}{Q} \left( A + \frac{1}{(n+1)} S + \frac{Gf}{m(n+1)} \right) + \frac{Q}{2} r \left( C_o + C_v \left[ n \left( 1 - \frac{D}{P} \right) + \frac{D}{P} \right] + C_r \frac{(n+1)}{f} \left[ \frac{D}{P} + (m-1) \left( 1 - \frac{D}{P} \right) \right] \right)$$

Case 2: (a) ( $k \leq 1$ ;  $k \in (1,1/2,1/3,1/4,\dots,1/m)$ )

If the price of the supplies according to the model of urgent orders is the same as in the regular supplies, then we have the following equation:

$$TC(m,n,Q) = \frac{D}{Q} \left( A + \frac{1}{(n+1)} S + \frac{f}{(n+1)} Gm + \frac{Q}{2} r \left( C_o + C_v \left[ n \left( 1 - \frac{D}{P} \right) + \frac{D}{P} \right] + C_r \frac{(n+1)}{mf} \left[ \frac{D}{P} \right] \right) \right)$$

b) If we consider a more real case, where the price by the model of urgent supplies is higher in comparison to the regular supplies ( $G_1 > G$ ), we come to the following equation:

$$TC(m,n,Q) = \frac{D}{Q} \left( A + \frac{1}{(n+1)} S + \frac{f}{(n+1)} (G + (m-1)G_1) + \frac{Q}{2} r \left( C_o + C_v \left[ n \left( 1 - \frac{D}{P} \right) + \frac{D}{P} \right] + C_r \frac{(n+1)}{mf} \left[ \frac{D}{P} \right] \right) \right)$$

#### 4. Reserves in Contemporary Market and Technological Conditions

The task of this paper is to define the amounts of the reproductive material kept as reserves in a contemporary way, in order to produce a product with minimal resources, so that the reserves are minimal.



### **The Planning of the Reserves of the Reproductive Material in Order to Provide the Continuity of the Production Process**

---

In order for the planning of the reserves of reproductive material to be real and in line with the requests and tasks of the enterprise, it is necessary to constantly question and observe the market of the supplies of reproductive material. In that way the enterprise lessens the risk of the wrong orientation in the reserves of the reproductive material, as well as the planning of those reproductive material which cannot be provided in the wanted time.

The technology which should be applied is Ga with which we see and model the real system.

#### **5. The Methodology for Solving the Optimizing Problem**

One of the evolution methods which is very effective for solving these combinatoric optimizing problems is the genetic algorithm (GA). The advantages of the GA are:

- The objective function which should be optimized is completely average, that is there aren't any special requests such as continuity, differentiability etc;
- It can be applied to a great number of problems of different nature;
- The structure of GA provides many possibilities of improvement and enlarging of the efficacy of the algorithm;
- The reliability of the results can be enlarged by a simple repetition of the actions;
- The result is a pack of solution and not only one solution;
- It solves all the problems which can be shown as optimizing, no matter if the variables are the real numbers, bits or signs;
- It simply applies to multidimensional problems;
- There are finished computer packs which can be applied for the solution of concrete problems. This paper uses a computer realisation of GA within the computer programme MATLAB.

Weak points of GA are:

- It has to be adjusted to the given limits;
- It is often necessary to adjust the problem to the algorithm;
- It has a big effect of parameters on the efficacy. There isn't any universal rule for adjusting the parameters;
- The convergence is slower than other numerical methods. Because of many functions, GA is very slow;
- There isn't a 100% reliability of the solution.

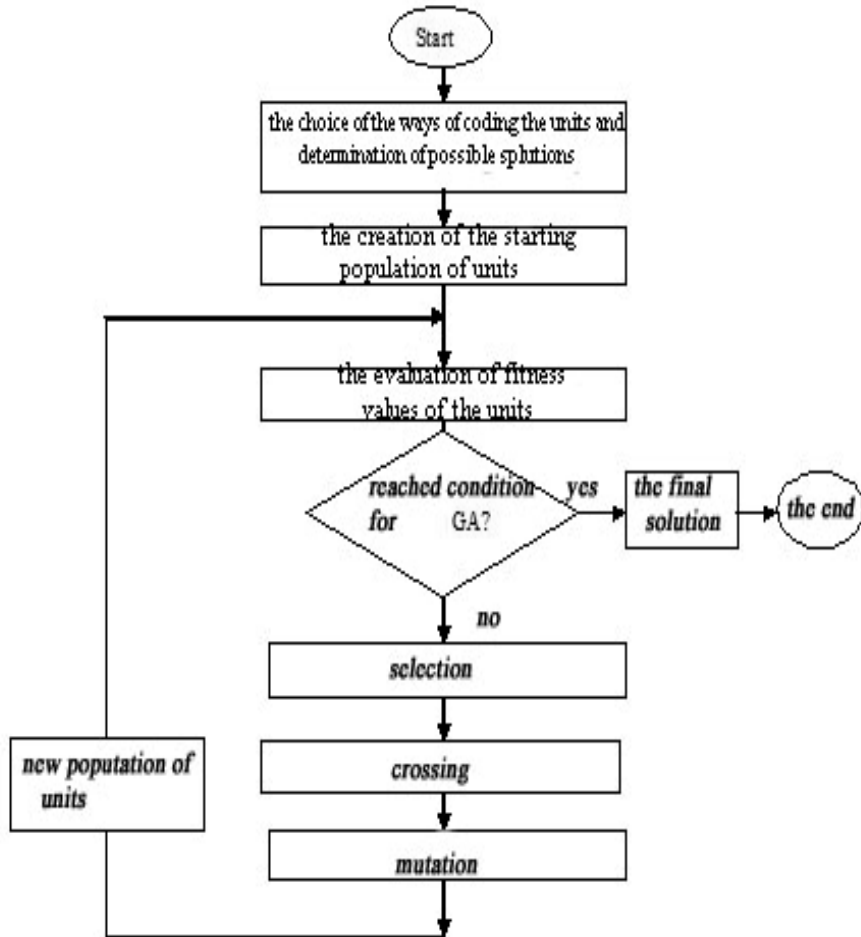
GA works with the population of units. Each unit is a potential solution to a given optimizing problem. The unit can be described as a pack of variable conditions the values of which are being optimized. The quality of the unit is quantified over the value of the fitness function of the function of goodness. The population of units is a pack of solutions to the given optimizing problem. One generation has the population with a certain number of units which have better or worse values of the fitness function. GA is a process which is done in sequences, by the application of three basic operators: selection, crossing and mutation. Eventually, there is a new generation of the population of units (solutions). After a certain number of generations, the process GA is stopped. The best unit from the last generation represents the solution of the optimizing problem, which is usually very close to the global optimum.

One iteration of GA can be divided into two phases. At the beginning of the process, there is a current population. The selection enables the elimination of bad units (solutions) and surviving of better units (with better fitness functions). In that way we create one mid-population (the pairs of parents). The selection can be understood as the formation of these pairs-parents. The next phase are the operations of crossing and mutation. Crossing is the process which, by the exchange of the parent genes, there appear two new units-children. After that, there is the mutation process, by which the units from generation to generation become better and better, which means that the values of the variable conditions are closer to the optimal values. The structure of GA is shown in Graphic 5.1

This paper uses the computer realisation GA in the program pack MATLAB R2008b within the toolbox/gads module.

**The Planning of the Reserves of the Reproductive Material in Order to Provide the Continuity of the Production Process**

---



**Graphic 5.1. The structure of genetic algorithm.**

**6. Test Example**

The described methodology is applied to two characteristic examples, with the following parameters:

$D=1000$  (t/annually);  $P= 1200$  (t/annually);  $D_r=1100$  (t/annually);  $f=0.91$ ;

$A=50000$  (din/order);  $S=520000$  (din/quartal);  $G=780000$  (din/quartal);

$C_q=130000$  (din/t);  $C_v=130000$  (din/t);  $C_R=130000$  (din/t);  $r=1$ ;

**1st Case:** The scopes of possible values of the variables which need optimal values are:

$$k=[1\div 5]; \quad n=[1\div 2]; \quad Q=[1\div 1500] \text{ ( t/order);}$$

This example shows the relationship between the ordered amount of raw material and the amount which is spent by the manufacturer in the production cycle, which is higher than one ore equals one which means that the amount of the ordered raw materials is higher than the amount spent in the production cycle (k.1).

The application of the described methodology brings to the optimal values of the driving variables which have minimal overall costs:

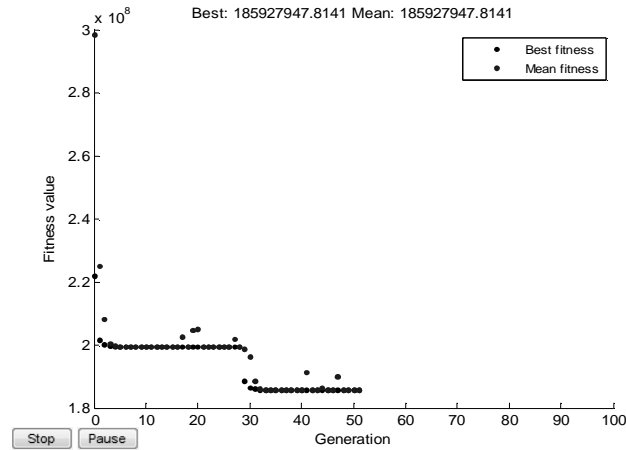
$$k=2.9; \quad n=2; \quad Q=28 \text{ ( t/order);}$$

$$TC= 21733000 \text{ din/annually}$$

With achieved optimal values of the driving variables (m, n, Q), for the amount of the products per one production cycle  $Q_M$  and the amount of ordered raw material  $Q_R$  we get:

$$Q_M = 84 \text{ (t/cycle);} \quad Q_R=258 \text{ (t/order)}$$

Graphic 6.1 gives the change of the best and average value of the fitness function during the process of GA in the process of reaching the optimal solution.



**Graphic 6.1. The process of GA in the process of reaching the optimal solution for the example 1**

The first case is that the amount of the raw material for the production is higher than the amount needed for one production cycle. In

**The Planning of the Reserves of the Reproductive Material in Order to Provide the Continuity of the Production Process**

that way, a certain amount of raw material is found in reserves of the manufacturer. This way of production bring us to somewhat higher costs of storage, but not to the additional costs which are caused by the urgent orders during the production cycle itself.

**2nd Case:** This example shows the relationship between the amount which is spent by the manufacturer in the production cycle which is lower than one or equals one which means that the amount of ordered raw material is lower than the amount which is spent in the production cycle (k,1).

$$k=[0.1\div 1]; \quad n=[1\div 2]; \quad Q=[1\div 1500] \text{ ( t/order);}$$

Now we get these results:

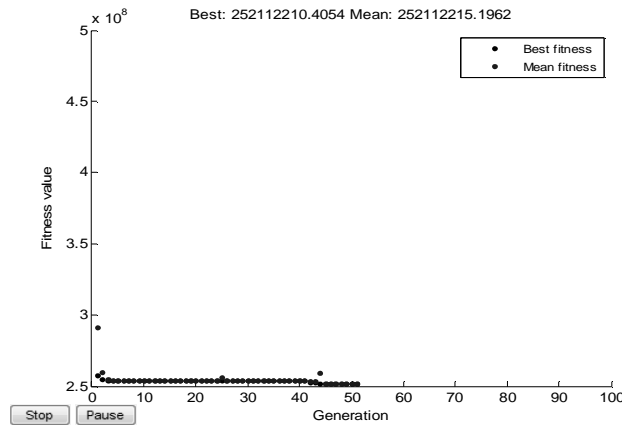
$$k=1; \quad n=1; \quad Q=1500 \text{ ( t/order);}$$

$$TC= 249490000 \text{ din/annually}$$

With the given optimal values of the driving variables (m, n, Q), for the amount of products per a production cycle  $Q_M$  and the amount of ordered raw material  $Q_R$  we get:

$$Q_M= 3000 \text{ (t/cycle);} \quad Q_R= 3296 \text{ (t/order)}$$

Graphic 6.2 gives the change of the best and average value of the fitness function during the process og genetic alorhythm in the process of reaching the optimal solution for Example 2.



**Graphic 6.1. The process og genetic alorhythm in the process of reaching the optimal solution for the Example 2**

The second case deals with the model with urgent orders, but at the price of raw material equal to the price with the regular supplies. In the conditions defined by the real parametres got according to the so far business

of the observed PPS, we reached optimal value of the final product and with minimal overall costs of the observed production process.

### **7. Conclusion**

The existence of the reserves of reproductive material is unavoidable. At one side, there are requests for the continuity of the production process, which is very sensitive at the shortage in the reproductive material, while on the other side we have the fact that it is practically impossible to arrange the delivery of the reproductive material and its engagement in the production process.

This paper shows the approach to the strategic management of the reserves and ordering within one real PPS.

According to the previously formed model, which embraces the costs of the preparations for the production, the costs of ordering raw materials for the production, the costs of their reserves, we search for the possible solutions of the observed problem of optimization of the value of production series from the aspect of two potential cases in the production practice of the enterprise. The first discussed case was that the amount of the ordered raw material is bigger than the amount needed for one production cycle. In that way, a certain amount of raw material is in the reserves of the manufacturer. This way of production brings us to somewhat higher costs of storage, but there aren't any additional costs caused by urgent supplies during the production cycle itself. The second case was about the model with urgent supplies, but at the price of raw material which is equal to the price in the regular supplies. Under the defined conditions, we get the optimal value of the produced amount of the material and in that way minimal overall costs of the observed integrated production process.

### **References**

1. Džejsms A.F. Stoner i dr., Menadžment, Zelind, Beograd, 1997. god. Str. 548.
2. Radoslav Penezić, Komercijalno poslovanje, Alef, Novi Sad, 1997, str. 39.
3. V. Vulanović, D. Stanivuković, B. Kamberović, N. Radaković, R. Maksimović, V. Radlovački, M. Šilobad, Metode i tehnike unapređenja procesa rada, IIS-Istraživački i tehnološki centar, Novi Sad, 2003. god. str. 27.
4. Dragutin Zelenović, Ilija Ćosić, Rado Maksimović Aleksandar Maksimović, Priručnik za projektovanje proizvodnih sistema, FTN, Novi Sad, 2003. god., str. 18 i 19.
5. Stijepo Andrijić, Matematičke metode programiranja, Svjetlost, Sarajevo, 1979. god., str. 79.

**The Planning of the Reserves of the Reproductive Material in Order to Provide  
the Continuity of the Production Process**

6. Živković Ž., Mihajlović I., Šurić I., Primen modela strategijskog upravljanja zalihama u poslovanju fakrike kreče“Zagrade“, Majska konferencija o strateškom menadžmentu, 2005 Bor, 247-253
7. Cvetković S., " *Razvoj savremenih proizvodnih strategija u industriji*", Monografija, Zadužbina Andrejević, Beograd 2002 god. ISBN 86-7244-335-7
8. K.Y. Lee, M.A. El-Sharkawi, " *Tutorial on Modern Heuristic Optimization Techniques with Applications to Power Systems*", IEEE Power Engineering Society, 2002, IEEE Catalog Number 02TP160.
9. D. Beasley, D.R. Bull, R.R. Martin, " *An Overview of Genetic Algorithms: Part 1. Fundamentals*", Complexity Intelligence, Charles Sturt University, <http://www.csu.edu.au/ci> .

**PLANIRANJE ZALIHA REPRODUKTIVNOG MATERIJALA S  
CILJEM DA SE OBEZEBEDI KONTINUITET PROCESA  
PROIZVODNJE**

**Rezime:** U ovom radu je predstavljen model upravljanja zalihama u okviru konkretnog proizvodnog sistema. Date su teoretske osnove modela razvijene sa aspekta različitih uslova realnog menadžmenta zaliha u okviru lanca snabdevanja. Definisana je Ga i primer određivanja zaliha na realne proizvodne uslove u jednom poslovno proizvodnom sistemu (PPS)[1].

**Ključne reči:** upravljanje zalihama, lanci snabdevanja, planiranje proizvodnje, genetički algoritam.







UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"

Year XLVIII, N° 4, 2010, p. 529 - 543

Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš

Phone: +381 18 528 601 Fax: +381 18 4523 268

## MARKETING AND SERVICE ECONOMY

**Aleksandar Grubor, PhD\***

**Abstract:** *Contemporary economies, especially those of countries with well-developed markets, are increasingly becoming service economies. The transition from industrial to post-industrial society has significantly altered the nature and structure of aggregate supply, where a growing share is taken up by services, at the expense of once dominant supply of physically tangible, i.e. material products. Furthermore, the supply of a multitude of tangible products represents the integration of products and services into a unified and original offer, meeting the needs of other suppliers as well as final consumers. Service economy is recognisable by the relationships established and developed between service providers and consumers, unlike industrial economy, predominantly oriented on manufacturing products and achieving results on that basis. In industrial economy, consumers' standard is measured by the amount of products available, whereas in the service economy the emphasis is placed on the consumers' quality of life, i.e. on changes in their state of mind or state of affairs.*

**Keywords:** *Marketing, services, service economy*

### Introduction

Contemporary consumers are faced with the need for service consumption on a daily basis. Service consumption is manifested as individual or B2C (business-to-consumer) consumption, or as B2B (business to business) service consumption. Business service consumption is characteristic of service companies and non-profit organisations, depending on their mission and the aims they strive to achieve, and its volume is multiple larger compared to individual consumption (which also includes service consumption on the household level). The growth in business service consumption also stems from the expansion of outsourcing in business

---

\* University of Novi Sad, Faculty of Economics, Subotica, E-mail: agrubor@ef.uns.ac.rs

UDC 658.8, 658.64, Review paper

Received: 22.07.2010. Accepted: 13.11.2010.

practices, implying payment for services (such as security, bookkeeping and accounting, hygiene maintenance services etc.) that business systems used to provide for themselves.

The past decades have been marked by a rapid and diverse development of service economy, which nevertheless has not been flowing evenly.<sup>1</sup> Namely, the 1990s saw many large service companies in the US (such as IBM and American Airlines) and the EU undergo a difficult period in their business. A general decline in prices became a significant element in competing strategies throughout the developed world. Non-profit organisations of service economy were also facing difficulties in their survival and development. These circumstances called for changes in the approach to service business, primarily in the form of developing and enhancing the services marketing concept. Companies in well-developed market economies focussed on core activities in their business, enabling a parallel development of outsourcing and offshoring as typical service activities. Offshoring represents a contemporary phenomenon in service economy, referring to the export of service business, which is at the same time one of the trends in the service economy development, keeping pace with the development of services marketing strategies and changes in the macro-environment.

Service economy development inevitably reflected the changes in service companies' business approach, where not all service companies responded to the changes in the functioning of contemporary economies identically and to the same extent. The most successful service companies are, at the same time, the first to start implementing the services marketing in their business operations, thus responding to the challenges of the modern development of service economy. Creating marketing strategies and developing new services are, therefore, significant features of contemporary service economy.

### **The Development of Service Economy**

Trends in the development of service economy and appropriate adjustments in the services marketing concept primarily refer to:<sup>2</sup>

- internationalisation of service business,

---

<sup>1</sup> Kasper, H., van Helsdingen, P. & Gabbott, M. (2006). *Service Marketing Management, A Strategic Perspective* (2<sup>nd</sup> ed.). Chichester: John Wiley & Sons, The Atrium: p.18.

<sup>2</sup> *Ibid.*, p. 18.

## **Marketing and Service Economy**

---

- growth in commercial principles, corresponding to the new trends in the form of benefits from mere satisfaction, privatisation and inadequate integration of services,
- implications of focussing on the companies' core business activities, outsourcing, offshoring and specialisation in service provision,
- increase in the companies' core activities, including mergers, acquisitions, cooperation and franchising,
- reduction in the differences between the supplies of products and services,
- changes in the structure and manner of service delivery, including provision of services through technology, intermediation and self-service.

The specific nature of service economy is also determined by the structure of activities realised within its framework. It is a matter of a multitude of activities of professional and logistic services, as well as numerous service activities not always visible in terms of providing services to end users.<sup>3</sup> Furthermore, certain service activities cannot always be expressed precisely in terms of accounting, i.e. costs, while such latent activities may be a significant source of competitive advantage. A proper understanding of potentially visible and invisible service activities requires marketing managers to undergo a transition to the service-based perspective in the implementation of business operations.

The increase in workforce numbers in service economy in comparison with other economic sectors is more than apparent. In developed market economies, 50% to 70% of the workforce is involved in service provision, where one should bear in mind that an increase in the number of employees does not result in a proportional output increase in service economy. One should also bear in mind that productivity in service economy is significantly lower than in the industrial sector.

The dynamic and diverse development of service economy stems from the impact of a major number of factors from the macro-economic environment. The growth and development of service economy was mostly influenced by:<sup>4</sup>

- a slower growth in the productivity of service industry in relation to other sectors of economy,

---

<sup>3</sup> Gronroos, C. (2006). *Service Management and Marketing, A Customer Relationship Management Approach* (2<sup>nd</sup> ed.). Chichester: John Wiley & Sons, The Atrium, p. 44.

<sup>4</sup> Ljubojević, Č. (2002). *Marketing usluga*. Novi Sad: Stylos: p. 16.

- a growth in the demand for services, both by retail and corporate consumers,
- separation of service providers, and
- standardisation of the service provision process.

Generally, the growth and development of service economy were accompanied by changes in the consumers' lifestyles, changes in the functioning of the contemporary world and changes in the production and communication technologies. The growth and development of service economy have resulted in the growth in demand for services, division of labour and specialisation in service economy, a significant increase in the number of service companies, intensified competition, and an increase in the share of services in GDP generation.

The quality and value of provided or delivered services are gaining prominence in service economy.<sup>5</sup> The supply of services to retail and corporate consumers implies making certain promises, which do not always have to be fulfilled. To achieve full consumer satisfaction, service providers have to supply more than promised. Acquiring service consumers can be achieved only by delivering services of high quality and consumer value, which implies building long-term and mutually acceptable relationships.

The high intensity of competition in service economy faces service companies with highly varied market requirements and challenges. Maintaining pricing competitiveness and profitability in service business is by no means a simple task for service marketing managers, bearing in mind that the number of competitors in the provision of many services is increasing virtually on a daily basis. Moreover, finding well-trained and qualified staff, their constant motivation and upskilling in marketing communication with consumers and other marketing environment factors as well as achieving satisfaction of increasingly selective and sophisticated service consumers, results in the need to adapt the marketing concept to the specific features of service economy.

It can be concluded that service economy<sup>6</sup> includes the "soft" sections of economy, and comprises nine service industry supersectors:

1. educational and health care services,
2. financial services,

---

<sup>5</sup> Lovelock, C & J. Wirtz, J. (2007). *Services Marketing, People, Technology, Strategy* (6<sup>th</sup> ed.), Upper Saddle River, NJ: Prentice Hall: p. 5.

<sup>6</sup> Hofman, K.D. & Bateson, J. (2006). *Services Marketing, Concepts, Strategies, and Cases* (3<sup>rd</sup> ed.). Thomson, South-Western: p. 59.

## **Marketing and Service Economy**

---

3. government sector service,
4. information provision-based services,
5. leisure and hospitality services,
6. professional and business services,
7. transport and maintenance services,
8. wholesale and retailing, and
9. other services.

Historically, economic development has marked the transformation of national economies from agricultural to industrial, and then from industrial to service economies. The first national economy to successfully undergo this transformation was the economy of the United Kingdom. Soon afterwards, the economies of the USA, Japan, Germany and France joined the ranks of service economies. The contemporary emerging economies are half way between traditional industrial and service economies.

Although service economy is a significant segment of the economic structure of developed countries, marketing theory and practice still predominantly deal with the marketing of material, i.e. physically tangible products. The majority of books and scientific articles in the field of marketing deal with the marketing concept, functions, instruments and activities from the aspect of consumer goods. The study of services marketing is only recent; more exactly, the 1980s saw a conceptual formation of services marketing theory, relying on the rich practice of service business. Services marketing started developing as a separate area of marketing theory application, and after three decades of intense and dynamic development, marketing activities in developed market economies took over primacy over the marketing of material, i.e. physically tangible products.

### **The Development of Service Economy**

For a number of years, authors found the marketing theory of tangible products far more attractive in relation to services marketing.<sup>7</sup> The growth and development of service sector in the economies of developed countries has resulted in an increased interest in services marketing among both academics and practitioners. Bearing in mind the specific character of services in relation to tangible products, it is clear that marketing principles cannot be consistently and fully applied to services, as it is essential to consider the impact of relevant factors in service business, i.e. to appreciate the specific features of services.

---

<sup>7</sup> Grubor, A. (2009). Services Marketing Performance Management. *Strategic Management*, 14 (3), 37.

The past two decades have seen the ensuing establishment of services marketing, keeping pace with the development of service economy, i.e. transformation of contemporary economies, increase in the consumers' income, increase in the amount of leisure time, as well as the growing complexity of tangible products, whose application and maintenance demand the provision of certain services.<sup>8</sup> In addition, contemporary product differentiation relies on service differentiation to a great extent, as consumers prefer the offers that include various services.

Services marketing is not applied only in service business, but, to an extent, in industrial business as well, in the form of providing various counselling, consulting, engineering, healthcare, educational etc. services. The underlying issue here is a growth in demand for consumer and industrial services, due to the impact of several factors.

Firstly, the increase in the consumers' income has resulted in a growing demand for service provision in household daily maintenance. Next, the increases in income and leisure time have led to a growth in demand for tourist, sport and recreational services. Furthermore, the increasing complexity, i.e. higher sophistication of household products (such as personal computers, household appliances, home video devices, alarm systems etc.) has resulted in the demand for specific installation and maintenance services related to these products. Product complexity is especially notable with industrial consumers, who are more and more focussed on sophisticated technologies, whose maintenance requires the provision of specific maintenance services. In addition, the imperative of cost-effectiveness in contemporary business operations implies a constant tendency towards reducing fixed costs, enabling the purchase of certain services on the market, as specialised service agencies render them more economically. Finally, successful companies established on the market channel their marketing effort toward core competencies, more and more frequently hiring specialised service companies for other competencies.

Services marketing is predominantly oriented to service activities. In contemporary economies, service activities include the public sector, private non-profit sector and profit-oriented sector. The profit-oriented sector represents the real domain of services marketing, whereas the public sector and private non-profit sector is a scope of specific application of services marketing. From the point of view of evolution, services marketing has been

---

<sup>8</sup> Grubor, A. (2009). Poslovna etika u marketingu usluga. *Anali Ekonomskog fakulteta u Subotici*, 45 (22), 140.

developing particularly due to the specific problems in the sale of services that demanded finding appropriate marketing solutions.

### **The Dynamic Development of Services Marketing**

The emergence and development of services marketing should be viewed in the context of the development of overall marketing theory. The beginning and formation of marketing theory dates back to early 20<sup>th</sup> century, more precisely 1902, when the students of the University of Michigan first attended a course devoted to the study of certain marketing issues. Marketing was included in the curriculum of higher education institutions in 1905, when the University of Pennsylvania launched lectures in the course of Product Marketing. From that date until 1920, marketing was integrated into a single entity in terms of conception.

The development of marketing theory is supported to a high extent by the implementation of marketing concept in business practices. In terms of its character, the evolutionary path of a broad implementation of marketing concept can be briefly systematised by decades as follows:<sup>9</sup>

1. consumer-focused marketing: the 1950s,
2. industrial marketing: the 1960s,
3. non-profit and social marketing: the 1970s,
4. services marketing: the 1980s,
5. relationship marketing: the 1990s.

The initial stage of a broad implementation of the marketing concept in business practices was marked by the establishment of consumer-focused, i.e. traditional marketing, which included the research, comprehension, satisfaction and stimulation of selected target markets, i.e. marking segments, by channelling available business resources towards satisfying the identified consumer needs. Marketing activities encompassed decision-making on marketing mix, analysing market opportunities and creating the appropriate business process.

Consumer-focused marketing assumed the features of mass marketing, and saw its broadest application in the field of consumer goods. The characteristics of consumer product market, however, are nevertheless different in relation to the characteristics of industrial consumption market, or service market. Apart from this, the changes in business economy resulted in intertwined and integrated consumer and industrial markets, channelling marketing theory towards developing industrial marketing, whereas

---

<sup>9</sup> Ljubojević, Č. (2004). *Marketing usluga*. Sremska Kamenica: Fakultet za uslužni biznis, p. 53.

somewhat later, social development supplemented marketing theory with non-profit and social marketing.

The interest of marketing theoreticians, roused by the sudden growth and development of the service sector in the economies of developed countries in the 1980s lead to the emergence and formation of services marketing. At the time, services marketing was an area of marketing theory expansion, as, in global terms, service economy was still perceived as a residual sector of economy.

In subsequent years, an increasing number of higher education institutions launched the study of marketing as a separate scientific discipline, facing the challenges of satisfying services marketing and their conversion into loyal consumers of services. The key issue is that only loyal consumers represent a service company's stable and predictable source of revenue, being the most profitable service consumer segment.

Implementing marketing services is, in fact, more complex in comparison with the application of tangible services marketing, because there is no product in the physical (tangible) sense. Besides differences between the production and supply of goods and services, the differences in service consumption are also evident in relation to the consumption of tangible products. Service consumption is, in character, a process, for services are processes by definition, unlike the consumption of tangible products, which is the consumption of outputs.

Services marketing highlights interactions, being a specific production, delivery and consumption of services. Interactions between a service organisation, contact staff and consumers are personal relations whose quality directly reflects service business performances. The relations in services marketing include:

- internal relations immanent to service companies, and
- external relations between a service organisation, contact staff and service consumers.

The role of service consumers in services marketing is also specific, for they are more or less involved in the service provision process, as participants in service production. The specific character of service consumers' position and role is also notable in service encounters, which are non-existent in the marketing of tangible products. Performance in service business is particularly determined by the successful realisation of service encounters.



## **Marketing and Service Economy**

---

One must bear in mind that the production, sale and consumption of services are partly realised within the interaction between a service company and service consumers. Services marketing is, therefore, focussed to a significant extent on relations between service companies and service consumers, and the care for establishing, maintaining and enhancing these relations lies within the scope of service companies' top management, whereas contact staff are in charge of their realisation.

The interactive character of services marketing has also led to a differentiation between two basic functions in the implementation of this concept:

- the traditional marketing function of service companies, and
- the interactive marketing function of service companies.

Differentiation between marketing functions within the services marketing concepts in line with the service business system concept comprising the "visible" and "invisible" part, similar to the "visible" and "invisible" elements of a product, unified synergetically.<sup>10</sup> The "invisible" part of the service system is imperceptible to service consumers and includes the internal organisation of service companies, which is in the function of supporting service staff in charge of establishing direct or indirect contact with service consumers.

The "visible" part of the service system comprises the physical environment available to the service company in the process of producing, selling and delivering service, plus the staff for contact with service consumers, and finally, the service consumers who assume an active role in the service production and provision process.

Relations in services marketing are increasingly viewed as long-term relations between a service company and its consumers. Such a view of service relations is supported by the relationship marketing concept, and is also applied in marketing tangible products, even with the offers comprising material products and corresponding services. The relationship marketing concept facilitates establishing, maintaining and enhancing relations between a service company on the one and service consumers as well as other partners in the service business on the other side, all of which is aimed at achieving mutual benefit.<sup>11</sup>

---

<sup>10</sup> Grubor, A. (2008). Proizvod i brend u međunarodnom marketingu. *Ekonomске teme*, 2, 40.

<sup>11</sup> Gronroos, C. (1997). From Marketing Mix to Relationship Marketing – Towards a Paradigm Shift in Marketing. *Management Decision*, 35 (4), 322-339.

The development of services marketing has also led to an extended understanding of the marketing mix concept. Marketing mix is a system of selected tools managed by the service company striving to achieve the defined services marketing goals. Services marketing mix is, at the same time, the core concept of services marketing, as managing the service companies' marketing mix is deemed to be the key marketing activity.<sup>12</sup> Tangible product marketing most often uses a marketing mix classification encompassing four instruments: product, pricing distribution channels and promotion. These four instruments refer to four key areas of decision-making and mark the most significant aspect of marketing concept implementation.

The term "marketing mix" was first used in 1953 by Professor Neil Borden in his American Marketing Association (AMA) presidential address.<sup>13</sup> By marketing mix, he meant the distribution of effort, i.e. combining, shaping and integrating marketing elements into a program or a mix, which is the best for achieving marketing objectives over a given period of time based on the estimation of market forces.<sup>14</sup> The classification of marketing mix most used by academics and practitioners, according to which marketing mix instruments comprise the so-called 4 Ps, originates from Professor J. McCarthy.

McCarthy's classification of marketing mix was bound to be changed in service business, in view of the specific characteristics of services. Considering the requirements of the specific practices of services marketing, the service marketing mix classification was extended and modified in theory, so that we normally refer to seven service marketing mix instruments:<sup>15</sup>

1. product,
2. price,
3. place, i.e. distribution channels,
4. promotion,
5. people,
6. physical evidence, and
7. process.

---

<sup>12</sup> Jobber, D. & Fahy, J. *Osnovi Marketinga*, (2<sup>nd</sup> ed.). Belgrade: Data Status, p. 183.

<sup>13</sup> Grubor, A. (2008). Marketing Channel Design. *Economic Themes*, 4, 52.

<sup>14</sup> Abel, D & Hammond, J. (1979): *Strategic Market Planning: Problems and Analytical Approaches*. London: Prentice Hall International

<sup>15</sup> Ljubojević, Č. (2004). *Marketing usluga*. Sremska Kamenica: Fakultet za uslužni biznis, p. 53.; cited from Booms, B.H. & Bitner, J.M. (1981). *Marketing Strategies and Organization Structures for Service Firm*. AMA, 1981.

Thus extended and adjusted, service marketing mix features three new instruments: people, physical evidence and process. These three instruments were not included in Borden's original classification, nor do they feature in McCarthy's classification of marketing mix most frequently used nowadays. Creating a service marketing mix imposes on service marketers the need for good knowledge of the essence of service offer and competence, i.e. the ability to decompose it into its constituents.

Service companies strive to achieve an optimum combination of service marketing mix instruments, thereby enabling efficient management of service demand. Decision-making on individual marketing mix instruments is carried out considering the combined impact of all instruments in an integrated service marketing mix concept. The relative role and significance of individual marketing mix instruments in the created service marketing mix combination tends to change depending on the changes in the environment, i.e. in time.

The development of service marketing mix increasingly gave rise to the manifestation of differences between services and tangible products, resulting in the differentiation of specific marketing mix functions, which had not been separately studied in the original theory of tangible product marketing.

### **Holistic Marketing in Service Business**

Service companies operate on complex service markets, where various interactions are becoming increasingly prominent. Aiming to achieve performance in service business, service companies strive to establish, maintain and enhance successful relationships. Relationships on target market segments imply building both short-term and long-term relationships, through which service companies gain the trust of the market, i.e. the service marketing environment.

The most significant relationships established, maintained and enhanced by service companies in the selected service marketing environment refer primarily to relationships between:<sup>16</sup>

- the service company and the market,
- the service company and the contact staff, and
- contact staff and the market, i.e. the consumers themselves.

The relationships between the service company and the market correspond to the relationship built by the management of these companies,

---

<sup>16</sup> Ljubojević, Č. (2002). *Marketing usluga*. Novi Sad: Stylos: p. 16.

in the form of making promises about the service business practices on the selected market segments. These relationships provide evidence of the service company's responsibility in the realisation of the traditional marketing.

The relationships between the service company and contact staff are relationships standing in the direct function of building relationships between the service company and the market, as they enable making promises about a given service company's business practices on the selected market segment. These relationships correspond to the established internal culture by which service companies are recognised.

Relationships between contact staff and the market, i.e. consumers themselves, represent relationships realising the delivery of previously made promises about the business practices of the given service company on the selected market segment. Interactive marketing in modern service companies' operations is implemented through these relationships.

Analysing the most important relationships established, maintained and enhanced in the selected marketing environment can lead to several conclusions. Firstly, a service organisation's internal culture is highly determined by the characteristics of the marketing environment, for business practice has demonstrated that there is a significant impact of the so-called external culture on the service company's internal culture.

Secondly, successful establishment, maintenance and enhancement of relationships requires adequate qualifications of the service company, in terms of possessing adequate knowledge, skills and organisational abilities for achieving service consumer satisfaction.

Thirdly, the interactive character of service business requires service companies to carry out appropriate decentralisation in establishing maintaining and enhancing the overall relationships characteristic of services marketing. Decentralisation entails assigning higher authority levels, but also delegating responsibility to individuals in charge of realising the above mentioned relations.

Finally, relationships in services marketing lead to the promotion of leadership in service business. It must be borne in mind that leadership in service business also enables the creation and provision of almost perfect services to consumers. Leadership represents direct support to service companies' orientation to consumers.

As service business implies complex interactions influenced by numerous factors, adopting the holistic marketing approach is of special

significance.<sup>17</sup> Holistic marketing in service business corresponds to the services marketing triangle, based on which it is possible to distinguish between three specific marketing types in service business, essential for achieving success on specific service markets. The specific types of services marketing refer to:

- traditional marketing,
- internal marketing, and
- interactive marketing.

By implementing traditional, internal and interactive marketing, service companies set up, enable and fulfil promises on business practices of a certain service company on the selected service market segment. Realising specific marketing types in service business presents a real challenge for services marketers and marketing managers.

The human resources of service companies are, beyond doubt, the most significant factor in the implementation of holistic services marketing, but one must not forget that a certain impact of contemporary technologies has been achieved in service business as well. Adding contemporary technologies to the services marketing triangle results in the services marketing pyramid.

Developing a services marketing pyramid brings about changes in the realisation of interactive marketing, as appropriate technological support is incorporated into the relationships between contact staff and the consumers themselves. This implies that, in addition to qualified staff, service delivery also includes service delivery supported by appropriate technical solutions, enabling service consumers to make a choice regarding the manner of delivery of certain services. Including technology into the creation and delivery of service offers represents a significant breakthrough in the market focus of contemporary service companies.

### Conclusion

The past two decades have seen significant changes in the implementation of marketing concept in service economy. In the times of high demand, i.e. weak competition, service economy was not recognisable across marketing practices, in view of the size and marketing qualifications of service companies.

---

<sup>17</sup> Kotler, Ph. & Keller, K.L. (2006). *Marketing menadžment* (12<sup>th</sup> ed.). Belgrade: Data status: p. 410.

The practice of successful service companies shows that the application of marketing in service economy requires a stage-based approach. Although the beginning is the same as in the case of consumer product marketing, i.e. the starting point is the knowledge of consumer needs and expectations, the specific features reflect developing service supply, designing service marketing programmes, establishing internal marketing, achieving consumer satisfaction, constant enhancing of the value chain, and long-term maintenance of service customer relations.

The application of marketing in service economy should enable the delivery of adequate value to consumers and partners in service business, considering service quality as an essential factor of contemporary marketing competitiveness. Employees and consumers in service economy are jointly involved in service production and consumption, which, in addition to the traditional, external marketing, also requires the implementation of internal and interactive marketing.<sup>18</sup> In other words, the application of marketing in service economy represents a real investment in the development and provision of superior services on the contemporary, highly competitive service market.

### **References**

1. Abel, D & Hammond, J. (1979): *Strategic Market Planning: Problems and Analytical Approaches*. London: Prentice Hall International.
2. Gronroos, C. (1997). From Marketing Mix to Relationship Marketing – Towards a Paradigm Shift in Marketing. *Management Decision*, 35 (4), 322-339.
3. Gronroos, C. (2006). *Service Management and Marketing, A Customer Relationship Management Approach* (2<sup>nd</sup> ed.). Chichester: John Wiley & Sons, The Atrium.
4. Grubor, A. (2008). Marketing Channel Design. *Economic Themes*, 4, 52. Niš: Faculty of Economics Niš.
5. Grubor, A. (2008). Proizvod i brend u međunarodnom marketingu. *Ekonomске teme*, 2, 40. Niš: Ekonomski fakultet Niš.
6. Grubor, A. (2009). Poslovna etika u marketingu usluga. *Anali Ekonomskog fakulteta u Subotici*, 45 (22), 140. Subotica: Ekonomski fakultet Subotica.
7. Grubor, A. (2009). Services Marketing Performance Management. *Strategic Management*, 14 (3), 37. Subotica: Ekonomski fakultet Subotica.
8. Grubor, A. (2009). Stvaranje vrednosti u marketingu usluga. *Ekonomске teme*, 3, 46. Niš: Ekonomski fakultet Niš.
9. Hofman, K.D. & Bateson, J. (2006). *Services Marketing, Concepts, Strategies, and Cases* (3<sup>rd</sup> ed.). Thomson, South-Western.

---

<sup>18</sup> Grubor, A. (2009). Stvaranje vrednosti u marketingu usluga. *Ekonomске teme*, 3, 46.

## Marketing and Service Economy

---

10. Jobber, D. & Fahy, J. *Osnovi Marketinga*, (2<sup>nd</sup> ed.). Belgrade: Data Status.
11. Kasper, H., van Helsdingen, P. & Gabbott, M. (2006). *Service Marketing Management, A Strategic Perspective* (2<sup>nd</sup> ed.). Chichester: John Wiley & Sons, The Atrium.
12. Lovelock, C & J. Wirtz, J. (2007). *Services Marketing, People, Technology, Strategy* (6<sup>th</sup> ed.), Upper Saddle River, NJ: Prentice Hall
13. Ljubojević, Č. (2002). *Marketing usluga*. Novi Sad: Stylos.
14. Ljubojević, Č. (2004). *Marketing usluga*. Sremska Kamenica: Fakultet za uslužni biznis.

### MARKETING I USLUŽNA EKONOMIJA

**Rezime:** Savremene privrede, a pogotovo ekonomije tržišno razvijenih zemalja, sve više postaju uslužne ekonomije. Prelazak iz industrijskog u postindustrijsko društvo, u značajnoj meri, je promenio prirodu i strukturu agregatne ponude, u kojoj sve više mesta zauzimaju usluge u odnosu na nekada dominantnu ponudu fizički opipljivih, odnosno materijalnih proizvoda. Osim toga, i ponuda velikog broja materijalnih proizvoda predstavlja integraciju proizvoda i usluga u jedinstvenu i originalnu ponudu, kojom se zadovoljavaju potrebe drugih ponuđača, ali i krajnjih potrošača. Uslužna ekonomija je prepoznatljiva po odnosima koji se uspostavljaju i izgrađuju između proizvođača i potrošača usluga, za razliku od industrijske ekonomije u kojoj dominira orijentacija na proizvodnju proizvoda i ostvarivanje rezultata po tom osnovu. U industrijskoj ekonomiji, standard potrošača se meri količinom proizvoda koji su njima dostupni, dok se u uslužnoj ekonomiji naglasak stavlja na kvalitet života potrošača, odnosno na promene u stanju ličnosti ili stvari.

**Ključne reči:** marketing, usluge, uslužna ekonomija.







UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"

Year XLVIII, N° 4, 2010, p. 545 - 560

Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš

Phone: +381 18 528 601 Fax: +381 18 4523 268

## **CVP ANALYSIS -THE IMPACT OF COST STRUCTURE ON THE RESULT OF THE COMPANY**

**Vesna Janjić, PhD\***

**Mirjana Todorović, MSc\***

**Dejan Jovanović\***

***Abstract:** Cost-volume-profit analysis represents valuable tool and irreplaceable management instrument in realization of one of the main goals – profit maximization of the company. CVP analysis, and brake-even point analysis within it, with its clarity and simplicity and with its arithmetic and graphic (visual) methodology provides possibility of planning, control and company's financial result accomplishment. Justified popularity permits us to emphasize once more its relevance and wide implementation in practice of the contemporary companies. In addition to previous, the article will explain the impact of cost structure on profit stability on the basis of the cost-volume-profit analysis.*

***Keywords:** CVP analysis, break-even point, cash flow break-even point, costs, operating leverage.*

### **Introduction**

There are numerous instruments which make the information system of the company simpler, faster and more efficient. One of the most important analytic means which is used by many management structures is „cost-volume-profit analysis“ known as CPV analysis, which provides simpler observation of costs and profit reactions to changes in the volume of business activity. Understanding these relations is of great importance for the development of successful business strategies as well as for planning of future business activities. It concerns the instrument which examines

---

\* University of Kragujevac, Faculty of Economics, E-mail: mtodorovic@kg.ac.rs

UDC 657.47, Review paper

Received: 22.07.2010. Accepted: 13.11.2010.

behavior of cost, revenue and profit by analysis of relation costs-revenue-profit, depending on the change of one or more influencing factors.

CVP analysis is widely used in preparation of financial statements for management since it is a simple technique which may be used for profit planning and making decisions about the best action direction. Its use is based on the assumptions of linear functions of costs and revenues, where the problem of simplicity and promptness of analysis is solved and at the same time, it is sufficiently reliable for short term monitoring of profitability flows, therefore it found wide use and popularity in company's practice. CVP analysis is applied in assessing the target profit, calculation of the break-even point, analysis of the planned margin of safety, calculation of the sales volume needed to achieve the target profit and decision-making on the sale price for a specific product.

The analysis is sometimes simply identified with the break-even point analysis which is not right considering the fact that it makes only one important element of the CVP analysis which will be given a significant attention in this article. There is no doubt that quantification and the break-even point analysis are crucial to the management of the company, but when it comes to maximization of the business periodic result, it is necessary to observe its elements in the intervals of business activities before and after the break-even point. Adequately organized accounting system and information that are provided by cost and management accounting, particularly Variable Costing, without any additional calculations, enable the calculation of the break-even point analysis, graphical representation and consideration of the effects of changes in relevant factors to the break-even point level and result.

### **1. Break-Even Point and Identifying Break-Even Point**

During its operation, in each accounting period (month, quarter, and year), company aims and wants to avoid loss, and managers are interested to know what the volume that needs to be accomplished is in order for the result to be positive. The break-even point analysis is a very suitable instrument which is available to the manager structure of the company for operating business result. It is primarily focused on short-term, flexible planning and control of mutual relations cost-revenue-profit for alternative volumes of production and sales. The break-even point, „dead point“ or lower limit of profitability can be defined as the volume of activity in which the business profit equals zero, that is to say income is exactly equal to the sum of variable and fixed costs. Hence, one of the basic assumptions for determining, graphic representation, interpretation and analysis of the break-

### CVP Analysis - the Impact of Cost Structure on the Result of the Company

even point makes satisfactory accuracy in the separation of the total costs of fixed and variable component. Given the fact that the variable cost calculation provides information on costs, which are divided to fixed and variable component, it is possible, without further effort invested, to get directly from the cost accounting the necessary data for the determining and analysis of planned and achieved break-even point. Using available data from the variable cost calculation, we will examine three methods for determining break-even point: equation method, contribution margin method and graphic display method. Income statement in the contribution form could be transformed into equation form in the following way:<sup>1</sup>

***Operating profit = [Revenue from sales – Variable costs] – Fixed costs***

$$\text{Or, OP} = [\text{RS} - \text{VC}] - \text{FC.}$$

By further, minor settlement of this equation the following equation can be reached, which is widely used in the CVP analysis:  $\text{RS} = \text{VC} + \text{FC} + \text{OP}$ , or,  $\text{Sp} \cdot \text{Q} = \text{Vc} \cdot \text{Q} + \text{FC} + \text{OP}$  (Sp – selling price).

Since the break-even point is defined as the lowest sales volume from which the total fixed costs and variable costs for a given volume of production can be covered, where there is not any profit or loss, it follows that the business result equals zero. Therefore, the break-even point can be calculated by finding the point where sales equal to the sum of variable and fixed costs. It follows that the break-even point, expressed in quantity, can be calculated from the following equation by solving Q:  $\text{Sp} \cdot \text{Q} = \text{Vc} \cdot \text{Q} + \text{FC}$ .

Hence, Q denotes the volume of production and sales at the break-even point level, which means that the volume of activities covered all costs for the production volume. If the company produces and sells less than the amount it will make a loss, if it produces and sells exactly so much it will achieve the break-even point, and if it succeeds to produce and sell more than that it will achieve business profit. Break-even point can also be expressed in value by multiplying the quantity of production and sales at the break-even point level of sale price per unit.

The break-even point can be reached by using the method of contribution margin which is only a short version of the previous method. The approach focuses on the idea that each unit of product sold provides a

---

<sup>1</sup> In the cost-revenue-profit analysis it was ignored the impact of tax on earning, that is to say, the result is expressed with the business profit because the tax costs and gains and losses from irregular activities are neither fixed nor variable costs.

certain amount of contribution margin which is intended to cover fixed costs. Starting from the given equation  $OP = (Sp - Vc) \cdot Q - FC$  and the attitude that at the break-even point level business result equals zero, we obtain the following equation:

$$CM \cdot Q = FC, \quad \text{or} \quad Q = \frac{FC}{CM}$$

Knowledge of the contribution margin per unit becomes an important indicator that measures the growth of profit from selling an additional unit of product. If the contribution margin per unit is known, which indicates the extent of contribution margin which each product unit creates as the difference between selling price and variable costs per unit, and if fixed costs are known the break-even point, expressed in units of the product, can be calculated easily.

Another variant of this method uses the rate (ratio) of contribution margin rather than contribution margin per unit, and as a result we have the break-even point expressed in value (BE(v)). Mathematically, break-even point expressed in value can be obtained if the equation,  $Q = FC / CM$ , is multiplied by the sales price per unit, and after that we get:

$$BE(v) = Sp \cdot Q = \frac{FC \cdot Sp}{Cm}$$

Dividing numerator and denominator by Sp we obtain:

$$BE(v) = Sp \cdot Q = \frac{\frac{FC \cdot Sp}{Sp}}{\frac{CM}{Sp}} \quad \text{or,} \quad BE(v) = \frac{FC}{\frac{CM}{Sp}}$$

Given that the rate of contribution margin (%CM) is expressed in the relation of contribution margin and selling price per unit, the break-even point expressed in value is calculated as follows:

$$BE(v) = \frac{FC}{\% CM}$$

Concept of contribution margin or the concept of contributions cover gives possibility of quick determination of unit volume of production and sales<sup>2</sup> that is necessary for company to cover costs and to achieve the desired

---

<sup>2</sup> In determining the break-even point we start from the assumption that the volume of production coincides with the sales volume.

## **CVP Analysis - the Impact of Cost Structure on the Result of the Company**

business profit. When the level of break-even point is reached, business profit will increase by the amount of units of contribution margin for each additional produced and sold unit. For example, if a break-even point on monthly basis is 100 units of product, or value expressed in 1000 RSD, and during the month 101 units of product are sold, then we can expect business profit for the month amounted to 10 RSD, considering that company will sell a product more than the number required for achieving the break-even point. Determining the volume of production/sales needed to cover the expenses can be of great importance for companies that make decisions on introduction of new products, building of new facilities, the continuation or closure of production lines, etc.

Approach based on the rate of contribution margin (% CM) is particularly useful when company has a combination of multiple products (product mix) and wants to calculate the break-even point for the company as a whole, where this method should be supplemented with graphical representation of the break-even point, which due to its practical importance requires to be presented separately.

### **2. Method of Graphical Representation of the Break-Even Point**

#### **2.1. Conventional Chart of the Break-Even Point**

Relations between revenues, costs, profit and volume of activity can be displayed visually by preparing and presenting graph of break-even point. Break-even point graph highlights CVP relations through „cost-volume-profit“ relation analysis and provides perspective to management in projection of costs, revenues, contribution margin and net profit for unreached volumes of activity of the accounting period remaining time. Break-even point graph, on the assumption of the straight movement of costs and revenues, is very easily and simply displayed (Figure No. 1). Displaying revenues, costs, volume of activity and profit and understanding their mutual relations, makes the break-even point chart important instrument for management performance and its elements at different levels of company's business activity [6, pp. 1086-1088.].

It is easily evident, on the represented break-even point graph, that the anticipated profit or loss at any given level of activity is measured by the vertical difference between the total revenue line and the line of total costs (variable costs plus fixed costs). Also, it is observed that the break-even point is situated on the intersection of lines of total revenues and total costs. As already pointed forward, when the volume of activity is under the break-even point, the company realizes loss.

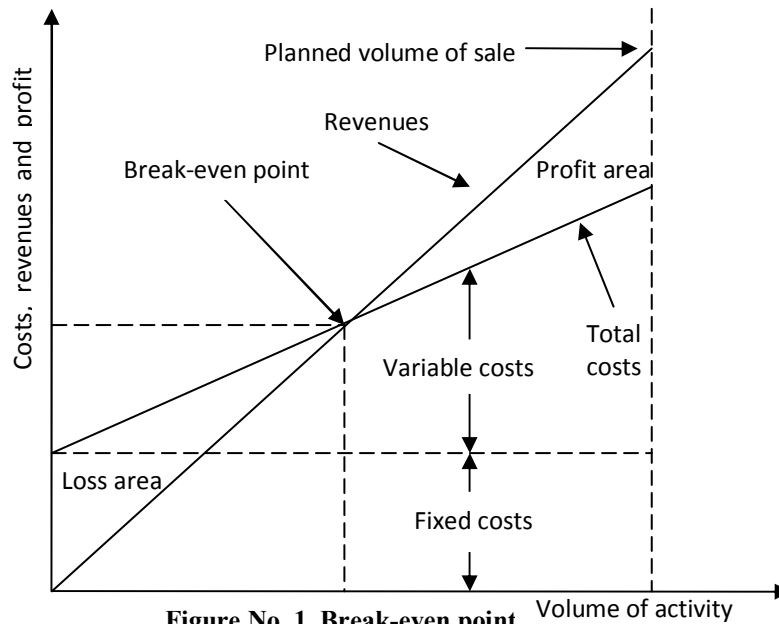


Figure No. 1. Break-even point

Similarly, it is noted that the negative result of company is getting worse as the volume of activity decreases. In contrast, when the volume of activity is above the break-even point, the company acquires the profit where the size of the profit, which is represented with the vertical difference between the line of the total revenue and total cost lines, increases when the volume of activity increases. In fact, the business result of the company, the profit or loss which is expected from each of the given volume of activity can be read from the break-even point graph. Regardless of the fact that there are many variations of the break-even point graph, all the diagrams (graphs) illustrate the relationship between costs, revenues and profits and are used for:

1. Comparison of the product profitability,
2. Comparison of profitability in different time periods,
3. Comparison of actual and planned revenues, costs and profits,
4. Showing the impact of various factors (variable costs, fixed costs, selling price, volume of activity and product mix) on the planned size.

## CVP Analysis - the Impact of Cost Structure on the Result of the Company

### **2.2. Break-Even Point of Contribution Margin and Cash Flow Break-Even Point**

Apart from the break-even point account at the level of total costs, it is also possible to determine *the break-even point of contribution margin*, and the so-called *cash flow break-even point*, that is to say the lowest source of income to cover the entire cash outflow. The basic condition for determining the break-even point of contribution margin and primarily for assessment of cash flow break-even point is the development of the variable costs account in the form of multi-leveled account of contribution margin and establishing inter-result based on it. Developed, multi-leveled contribution margin account requires the division of total fixed costs on some respective sizes as the causes of their origin, such as product, product group, organization segment or business as a whole, and the multi-leveled account of contribution margin would look like this:

Income from sales  
- Variable costs of production and sales  
= **Contribution margin I**  
- Fixed production costs  
= **Contribution margin II**  
- Fixed costs of series  
= **Contribution margin III**  
- Fixed costs of plant  
= **Contribution margin IV**  
- Fixed costs of non-production areas  
= **Net profit**

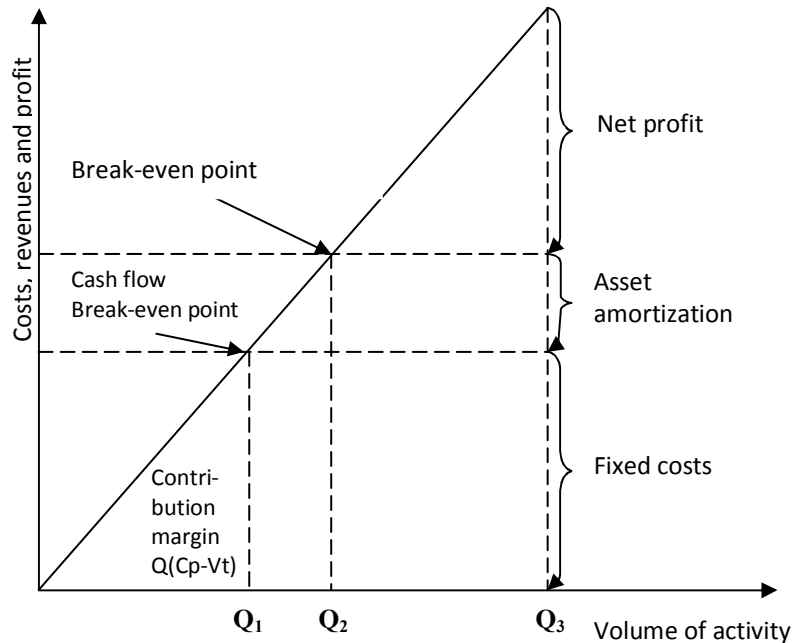
Now, in addition shown on the previous graph, the break-even point can be reached on the basis of data on fixed costs and contribution margin [4, pp. 66-68.]:

$$OP = (Sp \cdot Q - Vc \cdot Q) - FC \quad \text{or,} \quad OP = CM - FC$$

Based on these assumptions about the non-realization of profit at the break-even point level, from the previous one can conclude the following:

$$CM = FC$$

From this relation, it follows that the break-even point is in the intersection of contribution margin and fixed costs, which can be graphically presented in the following way [4, pp. 285-289.]:



**Figure no. 2. Break-even point based on contribution margin and cash flow analysis**

The break-even point graph, which is shown, provides important information to which we could not come or could not come directly in the previous display. Presented graph clearly highlights the volume of activity required for the company to satisfy the aim to cover the costs. All costs of the company are covered if the contribution margin is higher than the amount of fixed costs, and that is the volume of activity in the point  $Q_2$ . Further, the presented diagram of the break-even point provides information on activity required to cover all cash expenditures, that is to say on the inflows and outflows of cash and cash equivalents, thus the indicators of profit and loss account are supplemented and more complete picture of the company's success is provided, so it is crucial for identifying business results. Cash flow break-even point ( $Q_1$ ) indicates the minimum number of units of product to be sold to cover all the cash outflow. If we start from the simple assumption that cash flow includes only inflows based on profit and asset amortization, it follows that the contribution margin needs to cover all fixed costs reduced by the amount of depreciation (D) [4, pp. 285-300.]:

$$Q_1 (S_p - V_c) = FC - D \quad , \text{ or } \quad Q_1 = \frac{FC - D}{S_p - V_c} = \frac{FC - D}{CM}$$



### CVP Analysis - the Impact of Cost Structure on the Result of the Company

Since the company is not satisfied only with the achievement of volume activity at the break-even point level, it sets the requirement for achieving a minimum volume of activity to reach the target amount of profit:

$$OP = Q_3 (Sp - Vc) - FC \quad \text{It follows that:}$$

$$Q_3 = \frac{FC + OP}{Sp - Vc} = \frac{FC + OP}{CM}$$

Also, it is important that company management has information how to reduce the volume of activity and that the company still achieves a positive result, while using margin of safety (*MS*) and is expressed as follows:

$$MS = \frac{Q_3 - Q_2}{Q_3} \cdot 100$$

Finally, one can determine the level of capacity (*C*) utilization as the relation between the total contribution margin (*CM*), realized at the certain volume of activity, and total fixed costs:

$$C = \frac{CM}{FC}$$

It shows the relationship between the available capacity and market situation. This ratio shows how many times fixed costs are covered at the level of production *Q*, given the market circumstances. If its value is 1, it means that with the sales volume *Q* in a given market situation, company is on the verge of profitability. The ratio is very easy to determine and may indicate to management of the company to the need to take certain corrective measures in case of adverse trends which can be expressed in particular at companies that have large percentage of fixed costs in the structure of total costs.

### **3. Determining the Target Profit**

"Cost-volume-profit" analysis, or CVP analysis, can also be used for calculating volume of business activities which is necessary for achieving target profit level, according to fact that one of the main goals of company's management structure is not the realization of activity volume at the break-even point level but the growth of business result. For achieving target profit, company must achieve sufficient contribution margin to cover all fixed costs and then to achieve desired profit. [2, pp. 74-77.]

$$\text{Target CM} = \text{FC} + \text{Target OP}$$

In fact, basis of our analysis could be contracted in the next equation:

$$Q = \frac{\text{FC} + \text{Target OP}}{\text{CM}}$$

On the basis of this equation not only volume of activity at the break-even point level could be calculated, but the volume of activity which is necessary to achieve any desired (target) profit as well. To calculate the needed level of activity expressed in value for achieving specific level of profit, in the first place, it must be calculated the needed number of product units, and then that result must be multiplied with unit sales price. In more direct approach, we can get the same result on the basis of next equation:

$$\text{RS} = \frac{\text{FC} + \text{Target OP}}{\% \text{ CM}}$$

The amount of revenue from the sale for which the actual volume of activity is greater than the volume of activity at the break-even point level, known as margin of safety, expresses the amount by which the volume of activity could be reduced without realizing a loss in business. Margin of safety (*MS*), very important information indicator, gives the possibility of quick assessment of company's profit for any volume of activity above the break-even point, that is to say:

$$\text{OP} = \text{MS} \times \% \text{CM}$$

The basis of this equation lies in the fact that the margin of safety represents sales revenue above the break-even point, and that the total fixed costs are already covered, so that the total contribution margin increases the business profit of companies. The amount of increase or potential reduction of profit can be determined based on the rate of contribution margin that indicates how much of each RSD revenue covers fixed costs. This means that if the rate of contribution margin is 60%, each additional RSD revenue increases profit by 0.6 RSD and vice versa, every drop of revenue for a RSD decreases profit by 0.6 RSD. From this stems the following equation:

$$\begin{array}{l} \text{Changes of} \\ \text{business profit} \end{array} = \begin{array}{l} \text{Changes of sales} \\ \text{revenue} \end{array} \times \begin{array}{l} \text{Rate of} \\ \text{contribution margin} \end{array}$$

Thus far, we have ignored the impact of income taxes in the CVP analysis, however, the managerial structures of company are interested in the effects of their decisions on profit after taxation, that is to say on net profit.

### CVP Analysis - the Impact of Cost Structure on the Result of the Company

In fact, managers need information how many units of product to be produced or sold, to achieve the target or desired net profit [7, pp. 40-43].

If we start from the known relation:

$$\text{Target NP} = \text{Target OP} - (\text{Target OP} \times \% \text{ tax on earning})^3$$

That is to say,  $\text{Target OP} = \text{Target NP} / (1 - \% \text{ tax on earning})$

And if we perform the replacement in equation

$Q = (\text{FC} + \text{OP}) / \text{CM}$ , we get

$$Q = \frac{\text{FC} + \frac{\text{target NP}}{1 - \% \text{ tax}}}{\text{CM}}$$

Focusing on the analysis of the target net profit instead of the target business profit, it should be noted that the break-even point will not change because, by definition, business profit at the break-even point level equals zero, and therefore the tax on earning will not occur or will not affect the level of break-even point. In addition to the interest of managers to realize the larger differences between total revenues and total costs, they are also interested to achieve stability of net results by researching the relationship between certain categories of expenses in the structure of total costs, and it is thus necessary to point out how different cost structures affect the result of the company.

#### **4. Impact of the Cost Structure on the Result of the Company**

Based on planned and realized income statement and the corresponding break-even point graph, compiled in accordance with the principles of the variable account, we obtain a series of important indicators such as rate of contribution margin, margin of safety, break-even point, net profit, as well as the absolute amount of fixed and variable costs. The obtained indicators help managerial team in researching and analyzing the mutual connections between costs, revenues and profits of the company and its organizational segments and the adoption of rational business decisions about which products to produce, what prices to sell the products, as well as which marketing strategy to apply, and which cost structure is most suitable for specific company.

When speaking about the structure of costs, it is referred to the proportion of fixed and variable costs in relation to total costs. Every

---

<sup>3</sup> Where OP denotes operating profit and NP - net profit.

company in its business has a determined relation of fixed and variable costs, and CVP analysis can help management of company to assess the impact of cost structure on the stability of results, where operating leverage plays a key role. What management of the company is most interested in, when it comes to cost structure, is which is more favorable cost structure, whether it is high variable costs and low fixed costs, or vice versa. Given that each approach has its strengths and weaknesses, this question has no unique answer. As a second question, in which managers seek an answer, is which company has a better cost structure. The answer to this question depends on several factors, primarily on the long-term trend in sales, on fluctuation in the level of sales from year to year, on the tendency towards risk, etc.

Any concrete costs structure can have certain advantages and disadvantages. Company, which in its cost structure has larger participation of fixed costs and lower participation of variable costs, will face greater oscillations in net profit when sales fluctuate, with higher net profits in years with greater sales, and bigger losses in years with reduced sales. Company, which in its cost structure has less participation of fixed costs and increased participation of variable costs, will operate with greater stability in net profit and will be more protected from losses in less successful years, but with a lower net profit in the years of successful business [1, pp. 244-250].

The sensitivity of net profit on the percentage change in sales is expressed with the operating leverage, which represents the ratio of fixed costs to total costs and describes the effects which fixed costs have on changes in net profit, with changes in sales, and consequently to changes in the contribution margin. It follows that (on the assumption from the beginning of this work on the non-existence of interest and income tax) the level of operating leverage at a given level of sales is calculated as follows [1, pp. 245-248]:

$$\text{Level of operating leverage} = \frac{\text{Contribution margin}}{\text{Net profit}} = \frac{\text{CM}}{\text{NP}}$$

Specifically, the level of operating leverage 3 shows that 1% of sales volume changes causes 3% of the net profit changes or that net profit changes are three times higher than the changes in sales volume. If the two companies have the same total income and the same total costs, but a different cost structure, then the company with greater participation of fixed costs will have higher operating leverage. The level of operating leverage is not constant, it is the largest in the levels of sales near the break-even point, and decreases with distance from the break-even point, that is to say when sales and profit increase, but also when they decline. The level of operating

### CVP Analysis - the Impact of Cost Structure on the Result of the Company

leverage will continue to decline as the company moves away from its break-even point, and the level of operating leverage at the break-even point is infinitely large (contribution margin / zero RSD net profit =  $\infty$ ).

The impact of operating leverage on the amount of net profit can be shown on a simple hypothetical example [7, pp. 45-47]. The two companies, "X" and "Y", realize sales of 10.000 units of identical product at the sale price of 8 RSD per unit. At a given level of production both companies have identical total costs at the amount of 70.000 dinars and realize 10.000 dinars of net profit. Companies differ in cost structure. Company "X" has 40.000 variable and 30.000 fixed costs and the company "Y" 20.000 variable and 50.000 fixed costs (Table 1), where the first company's operating leverage is 4, and another 6.

Elements	Company „X“	Company „Y“
1. Revenues	$10.000 \times 8 = 80.000$	$10.000 \times 8 = 80.000$
2. Variable costs	$10.000 \times 4 = 40.000$	$10.000 \times 2 = 20.000$
3. Contribution margin	40.000	60.000
4. Fixed costs	30.000	50.000
5. <b>Net profit</b>	<b>10.000</b>	<b>10.000</b>

**Table 1 Account of net result**

We will assume that sales volume decreases by 25 % in both of the companies. It is shown in Table 2 how decrease of revenue affects net result of the two companies.

Elements	Company „X“	Company „Y“
1. Revenues	$7.500 \times 8 = 60.000$	$7.500 \times 8 = 60.000$
2. Variable costs	$7.500 \times 4 = 30.000$	$7.500 \times 2 = 15.000$
3. Contribution margin	30.000	45.000
4. Fixed costs	30.000	50.000
5. <b>Net profit (loss)</b>	<b>0</b>	<b>(5.000)</b>

**Table 2 Impact of operating leverage on the net result at  
the reduction of revenue**

Table 3 shows what will happen with the net profit of the companies "X" and "Y" if sale increases by 25 %. Company "Y", which has greater participation of fixed costs and less participation of variable costs in its cost structure, realizes higher growth of net profit than company "X", which confirms the previously noted statement that operating leverage reinforces

the impact on net result with the growth of sales volume, or reduces the impact on net result when sales volume decreases in relation to the break-even point level.

Elements	Company „X“	Company „Y“
1. Revenues	$12.500 \times 8 = 100.000$	$12.500 \times 8 = 100.000$
2. Variable costs	$12.500 \times 4 = 50.000$	$12.500 \times 2 = 25.000$
3. Contribution margin	50.000	75.000
4. Fixed costs	30.000	50.000
5. <b>Net profit</b>	<b>20.000</b>	<b>25.000</b>

**Table 3 Impact of operating leverage on the net result at the increase of revenue**

Companies with less participation of variable costs per unit can easily withstand, if it is necessary, bigger short-term reduction in price of their products when faced with increased competition, in relation to companies with greater variable costs. Thus, knowledge of competitor's cost structure is valuable strategic information for management in creating advertising campaign as well as for assessing business risk, where CVP analysis can provide great information support.

### Conclusion

At the end, as conventional practice requires, on the basis of previously noted, we will try to extract several important conclusions about CVP analysis and break-even point analysis, as its integral part. By observations, the significance of knowledge of this analysis is once more substantiated, as a convenient and simple instrument for observing cost-volume-profit relation. Based on the facts from account system by variable cost, three methods for determining break-even point have been examined: equation method, contribution margin method and method of graphic representation, where the break-even point graph of contribution margin and cash flow break-even point are displayed in addition to the conventional break-even point graph. Based on the display of contribution margin break-even point and cash flow break-even point the information abundance of the instrument has been supplemented, by providing information about what volume of activity is necessary to achieve so that the contribution margin

### **CVP Analysis - the Impact of Cost Structure on the Result of the Company**

would be higher than the amount of fixed costs and to cover all cash expenditures.

Cost-volume-profit analysis, inter alia, can be used for determining the volume of activity that is necessary for achieving the target level of profit, given that the aim of the company is not reaching the turning point but maximization of periodic result, where the break-even point analysis is given the epithet of irreplaceable instrument of governing. Inter alia, CVP analysis can help management to assess the impact of cost structure on stability of business result where operating leverage expresses net profit sensitivity on percentage changes in sale. Operating leverage acts like a multiplier, if the high operating leverage, a small percentage change in sale could cause a much larger percentage change in net profit, where the level of operating leverage is not constant but depends on the current level of company sales. Consideration applied to fixed and variable costs in total cost structure gives a clear confirmation of the importance of knowledge of the company's cost structure and CVP analysis information support.

#### **References**

1. Garrison H. Ray, Noreen W. Eric, Brewer C. Peter, *Managerial Accounting*, McGraw-Hill International edition, New York, 2006.
2. Horngren T. Charles, Foster George, Datar M. Srikant, *Osnove troškovnog računovodstva, upravljački aspect*, prevod, Udruženje računovođa i revizora Federacije Bosne i Hercegovine, Sarajevo, 2002.
3. Jones Michael, *Management Accounting*, John Willy & Sons, Chichester, England, 2006.
4. Kralick Peter, *Grundlagen der Kalkulation 2 aktualisierte und erweiterte Auflage*, Redline Wirtschaft bei Ueberreiter Verlag, Frankfurt/Wien, 2003.
5. Malinić Slobodan, *Upravljačko računovodstvo*, Ekonomski fakultet, Kragujevac, 2008.
6. Meigs F. Robert, Meigs B. Walter, *Računovodstvo: Temelj poslovnog odlučivanja*, prevod, MATE, Zagreb, 1993.
7. Zimmerman L. Jerald, *Accounting for Decision Making and Control*, McGraw-Hill International edition, New York, 2009.

## **CVP ANALIZA UTICAJA TROŠKOVNE STRUKTURE NA DOBITAK PREDUZEĆA**

**Rezime:** Analiza troškovi-obim-rezultat predstavlja dragoceno oruđe i nezamenljiv upravljački instrument u realizaciji jednog od osnovnih ciljeva – maksimiziranje dobitka preduzeća. CVP analiza, i u okviru nje analiza prelomne tačke, svojom jasnošću i jednostavnošću i svojom računskom i grafičkom (vizuelnom) metodologijom pruža mogućnost planiranja, kontrole i ostvarenja rezultata preduzeća. Opravdana popularnost daje nam za pravo da još jednom potenciramo njen značaj i široku primenu u praksi savremenih preduzeća. Pored toga, u radu će biti objašnjen uticaj troškovne strukture na stabilnost dobitka oslanjajući se na analizu troškovi-obim-rezultat.

**Ključne reči:** CVP analiza, prelomna tačka, cash flow prelomna tačka, troškovi, operativni leveridž.





UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"

Year XLVIII, N° 4, 2010, p. 561 - 571

Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš

Phone: +381 18 528 601 Fax: +381 18 4523 268

## STRATEGIC ORIENTATION OF NEW HIGH-TECH VENTURES

**Vesna Stojanovic Aleksic, PhD\***

**Mr Jelena Erić\***

**Mr Srđan Šapić\***

**Abstract:** *The latest scientific and technological achievements in the last decade have led to appearance of numerous start-up ventures in the field of high technology. Those ventures are exposed to high levels of risk and uncertainty since they are located in the industries characterized by either extreme turbulence or initial stage in the process of arising, which makes traditional strategic management process unfeasible. In this work paper, the authors have pointed out the significance of defining strategic orientation and making distinctions in strategic approach depending on industry characteristic and time framework for strategy implementation.*

**Keywords:** *new ventures, high technologies, strategy, turbulent industries, emerging industries*

### Introduction

Continual technology progress presents key incentive for economic growth acceleration. The last decade of the twentieth century was characterized by rapid emergence of information technology, development of tertiary sector, intensive competition and creation of new financial sources. The beginning of a new millennium brought knowledge economy, globalization of competition and increasing expectations of the Internet commercial use. However, initial "dot com" enthusiasm has dwindled and investors' preferences turned to the so-called *high technologies*.

During the last decade of the twentieth century, researchers noticed small and medium sized new ventures mainly in the field of high

---

\* University of Kragujevac, Faculty of Economics, E-mail: jelena\_eric@kg.ac.rs

UDC 005.591.6, Review paper

Received: 12.01.2010. Accepted: 13.11.2010.

technologies, following strategy of internationalization in the early phases of their life cycle. Investors realized that there is much more sense to invest in industries, where intellectual property rights are legally protected, and consequently new hi-tech ventures based on radical entrepreneurial ideas came to the centre of attention. New technologies have led to the foundation of the hi-tech industries offering diversity of business opportunities for future entrepreneurs.

### **1. Definition of New Hi-Tech Venture**

Schumpeter was first one who defined a new venture concept in 1934, when he said that “entrepreneurs have a need to compete; they are overwhelmed with activities providing encouragement for launching radical innovation, that cause irreversible turn of events and structural market change. [3, pp. 183-185]” Entrepreneurial new venture creates added value through innovation of products, services, markets, presenting new technology, channels of distribution or business strategy [1, pp. 9]. Scientific and technological discoveries nowadays are so strong and radical provoking new business opportunities to appear on daily bases [7, pp. 14].

New ventures can be founded as autonomous entity or within organizational structure as business unit. Independent entrepreneurs in most cases create new ventures in the legal form of corporation. This process is extremely challenging, especially for the entrepreneurs lacking managerial skills, resource availability or market recognition. Their ideas tend to be rather unrealistic and require significant adjustments in order to be implemented on the market. Corporate entrepreneurs are making efforts to implement innovative ideas within their organizations. They usually don't have a problem with insufficient managerial skills or resources, but the main obstacle they have to deal with is bureaucratic structure and organizational hierarchy. A short-term profit orientation doesn't support establishing and maintaining entrepreneurial spirit within organization. Recent research studies indicate that there is inverse proportion between company growth and innovativeness. [4, pp. 311-329]. Increasing competitiveness in last several years has driven companies to devote themselves to support corporate entrepreneurship.

New ventures can be differentiated according to their growth potential. The most prospective ventures are in the field of high technologies and they bring investors multiple returns on investment, either through acquisition or initial public offering. Some of the most successive hi-tech new ventures are Microsoft, Yahoo, eBay, Cisco, Google, Apple, Oracle, Genetech etc. For that reason, they are very interesting for entrepreneurs, but

### Strategic Orientation of New High-Tech Ventures

---

investors as well, especially in the last decade. Industries characterized by rapid change are telecommunication, medical equipment, hardware, networking, electronic, financial services, software, broadcasting and entertainment, biotechnology, retail, health care, etc. In the last two years, the highest amount of investment is going to software development, energetic sector, especially restorable sources of energy, biotechnology, medical devices and diagnostic, media and innovative formats for mass entertainment [13].

New hi-tech ventures can be differed by three key characteristics: [1, pp. 9-12]:

- *high innovativeness,*
- *high growth potential, and*
- *creation of new value.*

Some latest research studies have showed that there is positive correlation between venture growth and technology implementation. The highest growth rate is predicted for projects presenting disruptive new products/technologies, while lower growth rate have projects that follow defensive strategies in the hi-tech industries [8, pp: 507-527]. It has been proved that a positive correlation between entrepreneurial orientation intensity, innovativeness of new products/technologies and new venture growth rate can be identified.

The most successful new ventures have been created mostly as small enterprises. Innovativeness, proactive approach and inclination to risk are parameters that demonstrate domination of entrepreneurial orientation within small enterprise that will eventually make it a new venture. [11, pp: 567-588]. There is a resemblance, but difference, too, between entrepreneur and innovator. An innovator is a highly motivated person with tendency to simplify complex problems and search for possible solutions; therefore, the main success parameter for him is number of new ideas regardless of their commercial applicability. An entrepreneur is dedicated to the idea, but dominantly in terms of possible implementation and potential for creation of new preferences. Therefore, the innovator is more interested in invention, and entrepreneur for idea implementation.

It hasn't been cleared yet how the process of *product evolution* looks like, in other words, how the innovation is developed and implemented within entrepreneurial process [6, pp. 13-17]. The evolution is starting with development of fundamental sciences (such as, thermodynamics, fluid mechanics, electronics) and platforms technologies (for example, lasers), and

it ends by launching new product on the market. Critical point for beginning entrepreneurial process and new product development is to meet new technological and scientific achievements on the one side, and social needs on the other. This activity, the so called *interactive synthesis*, in most cases doesn't have potential to create commercial innovation, and this is the key issue of new technology implementation. In spite of difficulties, independent and corporate entrepreneurship are the most effective mechanisms for new technology commercialization.

*Commercialization of hi-tech innovation* is a never ending circle. In the early stage of a new technology life cycle, just few entrepreneurs start activities in certain industry, aiming to position themselves as leaders who define standards for all other competitors. In time, competition is becoming intensive; the industry is growing, but becomes more and more fragmented. At one point, big competitors are starting to take over the smaller ones by conducting consolidation. The industry is attaining stability. When it seems that the potential for a change is exhausted, competitors with radical innovations suddenly appear and the process of adjusting to new industry standards is starting from the beginning. The answer to dilemma, why certain industry is overcrowded with competitors, lies in the uncertainty about competitor who is going to force himself and become a new technological leader. When it comes to incremental innovation, present competitors have the advantage, but in the case of radical technologies launched by new hi-tech ventures, everyone has a shot, and as a result, the industry is becoming overcrowded.

## **2. The Relevance of New Venture Strategy Definition**

The process of defining new venture strategic orientation shouldn't be rigid, which means it has to be adaptable, since it represents prerequisite for establishment of a long term competitive advantage. It doesn't mean that consistence in strategy implementation is not important, even though venture must possess some kind of formal structure, but it has to be flexible enough to change. Large companies have clearly defined standards and procedures for managing large scale operations. In new hi-tech ventures creating those "rules" doesn't exist. Management philosophy is radically different, because the accent is on the innovativeness, creativity and originality of entrepreneur, and not on formal hierarchy and subordination system.

Certain authors [10, pp. 55] believe that, even though companies improve product design and performance, in time further modifications are becoming less and less commercial, so there is not much the management

### **Strategic Orientation of New High-Tech Ventures**

---

can do but to make radical shift and adopt new technology or product, entering new market and conducting organizational changes. By making a decision to create a new venture, companies take over these activities all together, which brings higher risk and represents serious challenge for strategic management.

The main problem in defining hi-tech ventures strategic orientation is the high level of market uncertainty, and in some cases, when a radically new product or service is launched, it is not clear if the market exists at all. It is still hard to define competitors and there is no quantitative analysis of market's indicators the entrepreneur can rely on. Even if it does, probably there wouldn't be enough time for contemplation and strategy definition, considering turbulence of those industries.

New venture strategic orientation must be defined to support its growth and to correspond with industry standards. [5, pp. 265-270]. During the process of strategy definition, it is necessary to analyze both, competitive environment, as well as available resources. The lack of information, a high risk related to product development and market uncertainty are factors that make impossible strategic management process in a traditional sense of the word. It doesn't mean that new venture has no needs for strategy, on the contrary. Unclear strategic orientation is the main reason for most ventures failure. Management needs to define growth direction and to conduct activities that correspond with overall venture's vision. Strategic process at new hi-tech ventures is highly dependent on skills and intuition of entrepreneur and founding team.

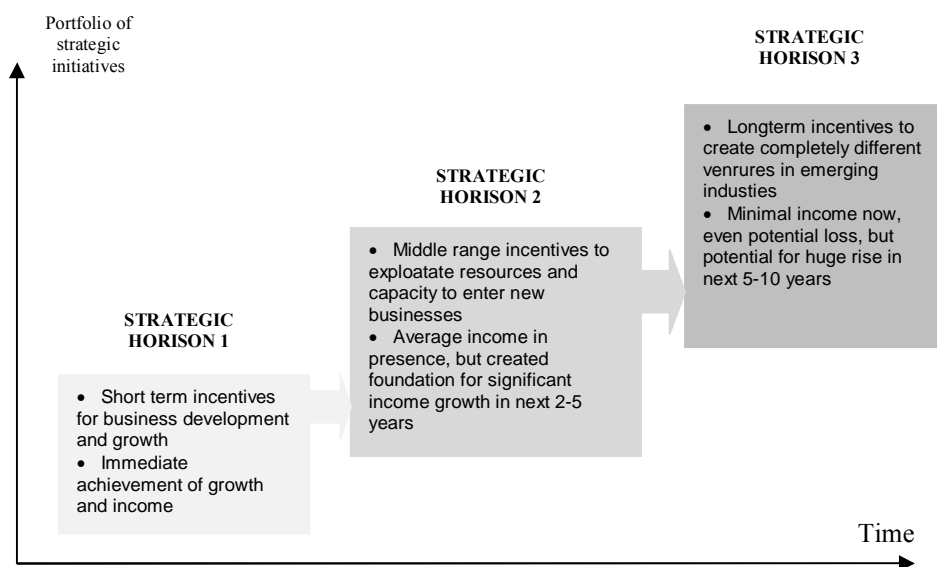
### **3. Defining of Venture's Strategic Orientation**

Entrepreneurs focused on achieving high venture growth rates must, in defining the strategic orientation, have in mind three strategic incentives, the so called strategic horizons: [12, pp. 263-265]

- Strategic incentives that can strengthen and improve their position in the existing business. This refers to the expansion of the production program, performance in new markets and competitors offensive actions, etc.
- Strategic incentives for new business entry with high growth potential. The basis for undertaking these medium-term efforts incorporates organizational potential, know-how and technological competence.
- Strategic incentives for creating a completely new venture in the so-called emerging industries. These are long-term projects related to

IR activities or creating an internal venture capital fund for investing prospective new ventures, based on new technologies or products on the emerging markets.

### No. 1: Strategic horizons for rapid new venture growth



Source: Eric D. Beinhocker, Robust Adaptive Strategies, Sloan Management Review Vol. 40, 3, 1999, p.101.

An entrepreneur must develop a wide range of strategies from short-term, focused on the current business growth, to long-term, aimed to define development strategy in the next 5-10 years. Creating these portfolio strategies increases the possibility of success by minimizing the risk of unexpected events.

Managing strategic incentives portfolio is not easy. Most entrepreneurs are oriented to the first one, and only occasionally turn to the second and third horizon. Recent research conducted by McKinsey & Company reveals that 30 of the world's fastest growing companies have balanced focus on all three horizons.

There is a risk associated with the definition of venture portfolio strategies. How and when the defined strategic orientation will pay off, is hard to tell. Medium and long-term strategies might be defined far from the core competences, so venture eventually get into business where there is a lack of competitive capabilities. Those strategies might be difficult to

### **Strategic Orientation of New High-Tech Ventures**

---

implement because of insufficient resources and capacities. Many new ventures will fail, and only few of them will have positive return on investment. Even then, benefits may be insufficient to compensate time, efforts and resources, which can result with disappointment.

Now we shall discuss alternative strategic directions for the high-tech ventures, depending on whether they compete in very turbulent industries or in the so called emerging industries.

#### **4. New Ventures Strategy in Turbulent Industries**

An increasing number of ventures are doing business in very turbulent industries, characterized by rapid technological changes, short product life cycle, new competitors' market entry, their aggressive actions in the form of mergers and acquisitions, extremely changing preferences, etc. The central strategic issue, under such circumstances, is change management. An entrepreneur can take one of the three possible positions [12, pp 252-256]:

- respond to change - this is a defensive strategy, but sometimes necessary, when the resources are insufficient to create new venture;
- predict the change - this approach is essentially defensive, too, since it is based on assumption that change is inevitable and that entrepreneur must initiate actions to adapt. He or she creates new possibilities that makes this approach more desirable
- initiate change - involves proactive actions and creating the rules for all competitors. It is offensive position intended to make new venture the leader on the market. To become, for example, the leader in technology, means to offer products and services that have potential to set new standards in the industry.

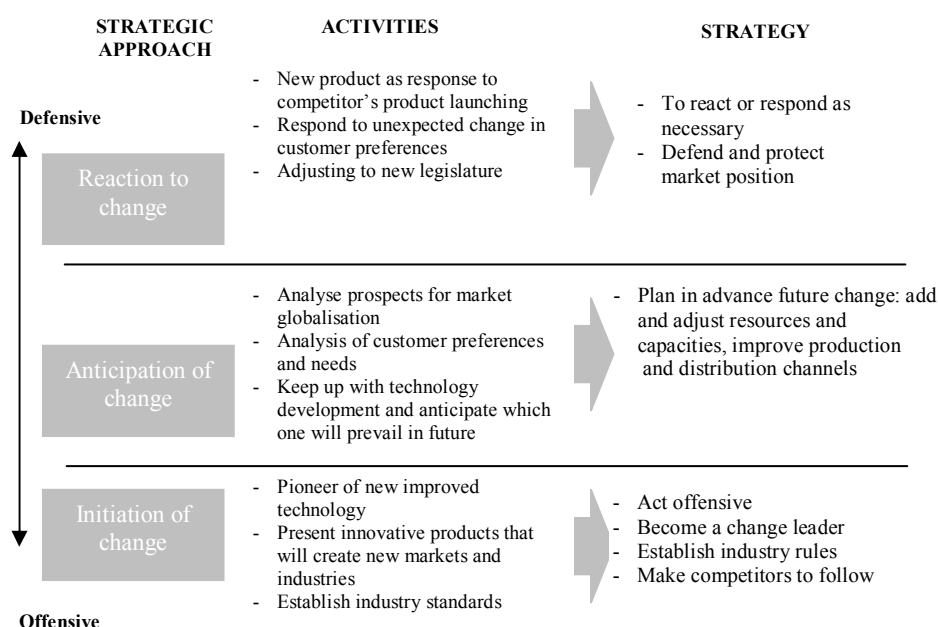
The ideal approach to management would incorporate all aforementioned approaches. The most successful companies operating in turbulent industries constantly initiate change by implementing proactive strategies. Continual environmental change imposes necessity to forecast, prepare and timely respond to unforeseen circumstances. Although constant adjustment as well as shift from defensive to offensive approach might turn out to be inefficient, it is much worse to stick to the inadequate strategy. Two strategic directions, in practice proved to be the most successful:

a) Aggressive investment in research - development (RD) activities in order to maintain the position of technology leader. It is desirable to focus RD efforts in several key areas aiming to deepen understanding of the entire business, enhance technology and fully utilize the economy of scope. When

major changes on the market lead to a number of products varieties, the key focus should be to reach a leadership in chosen value chain activities.

b) Develop and improve organizational capacity for prompt adjustment to unexpected events and competitors actions. It is essential to conduct an internal resources reallocation, adapt existing skills and capacities, as well as to create new foundation for achieving competitive advantage. In that sense, it is possible to decide on an appropriate strategy scope, depending on market segment characteristic and production range dispersion.

### No. 2 : Change management on turbulent markets



**Source:** Brown, S., L., & Eisenhardt, K.,M., *Competing on the Edge: Strategy as Structured Chaos* (Boston: Harvard Business School press, 1998), pp: 5.

### 5. Strategic Options for New Ventures in Emerging Industries

Emerging industries are in the process of creation and most of them are located in the field of high technology. New ventures in those industries are in early phases of their life cycle. Business strategies have not been verified and the fact they are formulated on the assumptions what the future will be like makes them highly risky. Market is not created and the uncertainty level is extremely high. Insufficient data make projections unreliable.



### Strategic Orientation of New High-Tech Ventures

---

The market position of a new venture is based on patents, unique technology competences and specific know-how, entrepreneurs intend to protect. However, new ventures lacking resources for research and development can spend years waiting for products to reach break-even point, usually end up merging with competitors or being a subject of acquisition performed by financially stronger companies looking for investment alternatives on emerging markets.

There is no agreement regarding the technology that will prevail on the market. Huge product, quality and performance variations are present. Every new venture founding team is making efforts in order to impose its technology, design, product or market approach, and to become a leader. [2, pp: 228-230]. The main task for marketing experts is to encourage customers to make the initial purchase and to exceed their anxiety regarding its performances and superiority. Most of customers expect the first generation products to be significantly improved so they could postpone the purchase until they reach market maturity.

They are two key strategic issues new ventures are facing with:

- a) *How to provide finance for initial activities undertaking until product or technology reach its break-even point?*
- b) *On what market segments management should focus and what strategy would be appropriate to attain leader position?*

In order to make a success in future industries, new ventures must implement one of the following strategies: [12, pp. 250-256]:

- Implementing extremely creative risky strategy and early leadership takeover. The most common strategy is wide or focused differentiation [5, pp: 218-220], related to technology or product excellence. This makes sense when resources or capacities are extremely limited, and it is possible to identify multiple attractive market segments, innovative ways to use product or discovering new unsaturated geographic regions.
- Focus on refining technology, raising quality level and developing superior product performances. It is important to take advantage of pioneer market entry through early exploitation of its technology potentials, spreading range of products, improving design, the economy of scope and positioning in new distribution channels. When one technology prevails on the market, it is important to embrace it as soon as possible. Entrepreneur should keep in mind that R&D expenses are extremely high and that latter technology shift could be very rapid and expensive.

- Create strategic alliance or joint venture with key suppliers in order to obtain long term access to specific resources and complementary technology [2, pp. 258-259].
- To make possible for customers to get the first generation of product at reasonable price. When product becomes recognizable to wide market segments, marketing activities should be shifted to frequency of use and building brand loyalty.

### Conclusion

Entrepreneurs need to make a balance between striving to make short- term profit and long-term necessity to create sustainable competitive advantage. Competition intensifies the most in the field of high technologies where numerous start-up ventures appear, founded on basis of scientific and technology achievements. Huge challenge is placed in front of management theory and practice, to establish framework for definition of strategic orientation when the traditional strategic management process cannot be performed. In this working paper, the authors provided guidelines in the context of possible actions, fully aware of the fact that limitations are enormous, especially in regard to the risk and uncertainty that entrepreneurs are facing, but with the intent to point out the complexity of the matter and future research directions.

### References

1. Allen, K.A., [2009], *Launching New Ventures*, Houghton Mifflin Company, Boston, USA.
2. Baron, A.R. & Shane, A.S., [2005], *Entrepreneurship: a Process Perspective*, South-Western, Thomson Corporation.
3. Busenitz, L. W., [2007], 'Progress in Understanding Entrepreneurial Behavior', *Strategic Entrepreneurship Journal*, No. 1.
4. Casson, M., Yeung, B., Basu, A. & Wadeson, N., [2006], *The Oxford Handbok of Entrepreneurship*, Oxford University Press.
5. Grant, M.R., [2009], *Contemporary Strategy Analysis*, Blackwell Publishing, Oxford, UK.
6. Hisrich, R.D., Peters, M.P. & Shepherd, D.A., [2008], *Entrepreneurship*, McGraw-Hill, Singapore.
7. Longenecker, J.G., Moore, C.W. & Petty, J.W., [2003], *Small Business Management: An Entrepreneurial Emphasis*, South-Western, Thomson Learning, Mason.
8. Moreno, A. M. & Casillas, J. C., [2008], 'Entrepreneurial Orientation and Growth of SMEs', *Entrepreneurship Theory and Practice*, No. 32(3).

### Strategic Orientation of New High-Tech Ventures

---

9. Morrison, R., & Ericsson, C., [2003], *Developing Effective Engineering Leadership*, The Institution of Electrical Engineers, London, United Kingdom, ninth chapter.
10. Rasila, T., [2004], *Venture-to-Capital Framework for Growth Venturing and Professional Ownership*, University of Technology, Tampere.
11. Runyan, R., Droge, C. & Swinney, J., [2008], 'Entrepreneurial Orientation versus Small Business Orientation: What are their Relationships to Firm Performance', *Journal of Small Business Management*, No. 46(4).
12. Thompson & Strickland, [2001], *Strategic Management*, McGraw-Hill Companies, Inc., New York.
13. Internet link: <https://www.pwcmoneytree.com/MTPublic/ns/index.jsp> (Pricewaterhouse/Thomson Venture Economics/National Venture Capital Association Money Tree™ Survey 2008)

### DEFINISANJE STRATEGIJSKE ORIJENTACIJE NOVIH PODUHVATA U OBLASTI VISOKIH TEHNOLOGIJA

**Rezime:** Naučne i tehnološke promene u poslednjoj deceniji dovele su do pojave velikog broja novih poduhvata u oblasti visokih tehnologija. Ovi poduhvati su izloženi visokom riziku i neizvesnosti jer nastupaju u delatnostima koje odlikuje ekstremno visok nivo turbulentnosti ili se nalaze u fazi nastajanja, što onemogućava odvijanje procesa strategijskog menadžmenta kako se tradicionalno shvata. U radu je ukazano na neophodnost definisanja strategijske orijentacije i napravljena distinkcija u strategijskom pristupu koje visokotehnološki poduhvati treba da slede zavisno od prirode delatnosti i vremenskog okvira za implementaciju strategije.

**Ključne reči:** novi poduhvat, visoke tehnologije, strategija, turbulentne delatnosti, industrije budućnosti





UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"

Year XLVIII, N° 4, 2010, p. 573 - 588

Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš

Phone: +381 18 528 601 Fax: +381 18 4523 268

## THE IMPACT OF ENVIRONMENTAL POLICY IN SHAPING THE ENVIRONMENTAL PERFORMANCES OF FOREIGN DIRECT INVESTMENT

**Marija Petrović-Randelović, PhD\***  
**Snežana Radukić, PhD\***

***Abstract:** On the basis of comparative analysis of the characteristics of the environmental policy instruments, the aim of this paper is to point to the advantages and disadvantages in their application in solving environmental problems. Practice has shown that in most cases the application of mixed systems (command and control instruments plus economic instruments) is an economically reasonable way of achieving the set environmental goals. Such an analysis will serve as the basis for determining the effectiveness of the implementation of these instruments to improve the environmental effects of FDI on host countries.*

***Keywords:** environmental policy, foreign direct investment, pollution control, command and control, market-based instruments.*

### Introduction

In a time of complex changes, technological innovations represent a leading driver of economic growth and development of the economies of all countries. Diffusion of modern technologies is in the center of the process of accelerated development of developing countries and countries in transition and their approach to developed countries. However, modern technologies are not only an instrument to support the acceleration of the rate of economic growth and accelerating economic development. They also represent the primary instrument for the improvement of the conditions of the environment and environmental performances of developing countries and countries in transition. New production processes and products, depending of

---

\* University of Niš, Faculty of Economics Niš, E-mail: marija.petrovic@eknfak.ni.ac.rs

UDC 502.14:339.727.22, Review paper

Received: 23.06.2010. Accepted: 12.11.2010.

the level of their environmental compliance, can contribute to minimizing trade off between economic growth and pressure on the environment by reducing the pollution intensity of economic activities.

Improving the technological base of production, as a basic condition for increasing the international competitiveness and accelerating economic development, renders the probability for developing countries and countries in transition to simultaneously achieve progress in production efficiency and better environmental performances. However, a high degree of mutual dependence between the rate of economic growth and the pace of technical progress suggest indicatively that the pace of technical progress is determined not only by the dynamic of economy growth, but also by the rate of growth of investment in modern and more profitable technology. Bearing in mind that all countries are not at the same stage of development and that they are characterized by different economic dynamics, one might conclude that they will not be able to accept environmentally clean technology and production process to the same degree. Domestic accumulation (i.e. higher rate of savings) is the main financial source of investment in reproduction and increasing productive and environmentally justified capacities in developed countries. However, due to the low level of income per capita and low rate of savings, developing countries and countries in transition are not able to provide the resources to finance investments from domestic savings, which act as a main obstacle to accelerated economic growth and the conditions in the environment. By transferring the necessary material and immaterial resources, foreign direct investment received today the role of the factor of essential importance for accelerating development and promoting environmentally sustainable models of production and consumption in developing countries and countries in transition.

Improving the technological base of production in many countries in transition is based on the direct transfer of modern technology through foreign direct investment from developed countries. However, the basic question is whether the host countries of foreign direct investment can achieve environmentally sustainable growth by improving the environmental efficiency of production and consumption. Increase in environmental efficiency renders the probability for host countries to achieve sustainable environmental benefits and thereby to prevent the potential negative scale effects of FDI induced growth.

As a bearer of modern technology in the world, multinational corporations play a leading role in the cross border transfer and diffusion of environmentally clean technologies through foreign direct investment. Multinational corporations are introducing modern, environmentally justified

### **The Impact of Environmental Policy in Shaping the Environmental Performances of Foreign Direct Investment**

---

technology in host country directly, by investing in the establishment of affiliation or sale of technology to domestic producer and consumers. Foreign direct investment can generate also and environmentally beneficial technological spillover effects, but also to contribute to increasing the environmental efficiency, by accelerating competition in the host country market. Again, multinational corporations intrude strict environmental requirements to their suppliers in host country, which encourages them to adopt good environmental regulations, standards and management practice in the implementation of their activities. However, the environmental impact of inbound foreign direct investment is not the same in all sectors of one economy. Investment in environmentally sensitive sectors creates the greater impact on the level of environmental efficiency of the host country than those that are realized in relatively non-pollutants (cleaner) economic sectors.

Today the dominant perception among economists is that the environmental policy of the host country is an important determinant of FDI induced technological changes. For example, ``acid rain emissions, in particular SO<sub>2</sub>-emissions, have been strongly reduced in OECD countries... by instalment of new (abatement) technologies... This technology became available in response to increasing environmental stringency to curb emissions that spoil local (and distant) air quality`` [3, pp. 7].

Consequently, the question is: Does and how and through which instruments environmental policy of host country can stimulate transfer of environmentally clean technologies through foreign direct investment of multinational corporations and at the same time contribute to realizing not only environmental, but also the broader goals of sustainable development? In further consideration, the answer to this question will be given.

#### **The instruments for achieving the goals of reducing pollution**

Depending on the particular characteristics of effective pollution, the goals are set and the appropriate instruments of pollution control are chosen. The choice of an adequate instrument to reduce pollution can be done based on different criteria. For the purposes of this analysis only the criterion of cost effectiveness and efficiency is considered. The most-frequently used instruments are listed in Table 1. The focus is on the method of operation of each instrument and that he is cost-effective.

**Table 1. Classification of pollution control instruments**

<b>Instrument</b>	<b>Description</b>	<b>Examples</b>
<b>Institutional approaches to facilitate internalisation of externalities</b>		
Facilitation of bargaining	Cost of, or impediments to, bargaining are reduced	Polluter information placed in the public domain
Specification of liability	Codification of liability for environmental damage	Respiratory damage in Japan
Development of social responsibility	Education and socialisation programmes promoting citizenship	Energy-conservation media campaigns Environmental labelling
<b>Command and control instruments</b>		
Input controls over quantity and/or mix of inputs	Requirements to use particular inputs, or prohibitions/restrictions on use of others	Bans on use of toxic cleansing agents
Technology controls	Requirements to use particular methods or standards	Requirement to install catalytic converters in exhausts. BATNEEC
Output controls: Output quotas or prohibitions	Non-transferable ceilings on product outputs	Ban on use of DDT Singapore: vehicle quotas Effluent discharge licences
Emissions licences	Non-transferable ceilings on emission quantities	
Location controls (zoning, planning controls, relocation)	Regulations relating to admissible location of activities	Heavy industry zoning regulations
<b>Economic incentive (market-based) instruments</b>		
Emissions charges/taxes	Direct charges based on quantity and/or quality of a pollutant	Air pollution charges (e.g. NO <sub>x</sub> charges in France and Sweden; SO <sub>2</sub> charges in France and Japan) Carbon/energy taxes Water effluent charges (evidence of effectiveness in Germany, Netherlands and Malaysia) Noise pollution charges (Belgium, France, Germany, Japan, Netherlands, Norway, Switzerland) Fertiliser and pesticide taxes (Austria, Belgium, Scandinavian countries)
User charges/fees/natural resource taxes	Payment for cost of collective services (charges), or for use of a natural resource (fees or resource taxes)	User charges on municipal waste collection, treatment or disposal Hazardous waste, wastewater user, and aircraft noise charges



**The Impact of Environmental Policy in Shaping  
the Environmental Performances of Foreign Direct Investment**

		Water extraction charges (thought to be effective in several Asian countries) Congestion pricing (France, Norway, Singapore, USA)
Product charges/taxes	Applied to polluting products	Hungary: vehicle tyres Finland: nuclear waste Italy: plastic bags Belgium: disposables tax
Emissions abatement and resource management subsidies	Financial payments designed to reduce damaging emissions or conserve scarce resources	Quebec: subsidy for energy generated from waste Norway: grants to ecological farming
Marketable (transferable, marketable) emissions permits	Two systems: those based on emissions reduction credits (ERC) or <i>cap-and-trade</i>	Denmark: CO <sub>2</sub> emissions from power plants
Deposit-refund systems	A fully or partially reimbursable payment incurred at purchase of a product	Austria: refillable plastic bottles Quebec: one-way beer and soft-drink bottles Also used in Korea, Greece, Norway and Sweden
Non-compliance fees	Payments made by polluters or resource users for non-compliance, usually proportional to damage or to profit gains	Greece: car emissions Sweden: sea dumping of oil from ships
Performance bonds	A deposit paid, repayable on achieving compliance	Australia: mine sites USA: open pits
Liability payments	Payments in compensation for damage	Japan: waste – restoration of sites polluted by illegal dumping

Source: [6, pp, 207]

Environmental policy includes not only instruments for pollution control, as such, but also institutions that can prevent the use of pollution control instruments. Each of them has the potential characteristics to prevent the appearance of externalities or internalization of existing externalities. Therefore, it is possible that the decentralized behavior by consumers and producers can generate efficient outcomes and thus eliminates the need for regulatory intervention, if goals are set based on the criteria of efficiency. Solutions that belong to the institutional approach to internalization of externalities are: negotiation, respecting the principle of individual responsibility and the development of social responsibility.

The two basic types of instruments for reducing pollution are the following: instruments of command and control and economic incentive (quasi-market) instruments. The use of economic instruments to achieve environmental goals has been significantly increased since the 1970s. The number of applications, and the types of applied instruments have been increased. Revenues from environmental taxes in 2000 made about 7% of total tax revenues of OECD countries and this figure is constantly rising, accelerating at the end of the 1990s.

**Table 2. Economic instruments used in OECD countries**

Country	Fees, charges and taxes	Tradable permits	Deposit-refund systems	Non-compliance fees	Performance bonds	Liability payments	Subsidies
Australia	•	•	•		•		•
Austria	•		•				•
Belgium	•						
Canada	•	•	•	•	•	•	•
Czech Republic	•		•	•			•
Denmark	•	•	•			•	•
Finland	•		•			•	•
France	•	•					•
Germany	•					•	
Greece	•			•			•
Hungary	•		•	•			
Iceland	•		•				
Ireland	•						
Italy	•		•				
Japan	•					•	•
Korea	•		•	•			
Mexico	•		•				
Netherlands	•		•				•
New Zealand	•						
Norway	•		•	•			•
Poland	•	•	•	•			•
Portugal	•						
Spain	•						
Sweden	•		•	•		•	•
Switzerland	•	•					•
Turkey	•		•	•		•	•
UK	•						
USA	•	•	•		•	•	•

Source: [4]; Mark • means that the listed instrument used in the country under review based on a survey of all (29) OECD countries in 1999. 24 countries responded to the questionnaire-based survey, and for those that are not answered there is no entry in the all columns of table except the column „Fees, charges and taxes“. In addition, „Charges“ refer to the return emission charges, user charges and product charges.

### **The Impact of Environmental Policy in Shaping the Environmental Performances of Foreign Direct Investment**

---

User charges and subsidies were used in the 1970s. Since then, the emission charges and taxes are becoming more widespread, subsidies encourage the installation or use of environmental capital equipment which becomes a general and a several of other incentive instruments in the first time, including the deposit-refund systems and performance bonds. There was an application of the marketable permits, although not yet widespread. Table 2 lists the main categories of economic instruments and their implementation in OECD countries.

Economic instruments are also widely used for the management of natural resources. The general application in the management of water quantity (typically abstraction charges or taxes), fisheries (taxes, fees and transferable quotas), forestry (charges and subsidies) and wetlands (financial assistance to owners). Economic instruments are also used to preserve land quality and to preserve the species and wildlife (usually fees and permits).

#### **The command and control instruments**

The dominant method for reducing pollution in most countries was the use of direct control of pollutants. This set of controls is often referred to as command and control instruments. The basic types of instruments are: standards, non-transferable emissions license, minimum technology requirements and spatial planning.

The traditional way to change the direction of pollution has been setting the maximum permitted levels of emissions or use of resources, or the minimum acceptable levels of environmental quality, and then punish companies that exceed these limits. Measures of this type are known as command and control (CAC) systems. Specifically, they include the inspectors that control the amount of pollution and penalties that are large enough to deter firms from crossing the limit.

Practically, all countries have an environmental regulation or other. For example, the EU has over 200 items of legislation covering areas such as air and water pollution, noise, marketing and use of hazardous chemicals, waste management, environmental impacts of new projects (such as power station, roads and quarries), recycling, spending the ozone layer and global warming.

Usually, there are three approaches to establish a CAC system:

- Technology based standards. The focus should be on the amount of created pollution, regardless of its environmental impact. As the technology to reduce pollutants improves, and to determine the

stronger standards, based on „the best available technology“ (as long as costs are not excessive). Thus, the car manufacturers could be required to ensure that motor vehicles meet the new lower levels of CO<sub>2</sub> emissions when the technology that enables them.

- Ambient-based standards. Here, we have the focus on environmental impact. For example, the standards for clean air or water should be set. Depending on the location and number of pollutants in the area, the given standard could be achieved with different levels of cost. If the goal is a cleaner environment, this approach is more effective than technology-based standards.
- Standards of social influence. Here, the focus is on the effect on people. Thus, stronger standards should be imposed in the densely populated areas. Whether the approach is more efficient than that of the ambient-based standards depends on the approach to sustainability. If the goal is to achieve social efficiency, standards of impact on people are preferred. If the goal is the environmental protection in its own favor (deeper green approach), ambient standards would be preferred.

If there is uncertainty about the environmental impact of pollutants, especially in the long run, it is often better to play it safe than to set strong emission or environmental standards. They could still be weakened at a later stage if the effects would not be so harmful, but might be too late to prevent damage if such effects were serious. Taxes could be more sophisticated means of achieving socially efficient output, but CAC methods are usually designed to help companies understand and easier to use. Also, setting the standard is more in line with pro-environmental ethics of many environmental groups, such as Greenpeace and Friends of the Earth who are imposing pressure. Using taxes, otherwise, focuses on the effects on people more than the environment exclusively.

### **Economic-incentive (quasi-market) instruments**

The instruments of command and control act imposing duties or restrictions on the behavior of firms and individuals. Instruments based on incentives act by creating incentives for individuals or companies to voluntarily change their behavior. These instruments are changing the structure of payments faced by subjects.

Employing incentives to make behavior less polluting can be thought in terms of prices and markets. Such effects have: taxes, subsidies and transferable permits create a markets (or quasi-markets) for the

### **The Impact of Environmental Policy in Shaping the Environmental Performances of Foreign Direct Investment**

---

externality of pollution.<sup>1</sup> In these markets, there are prices that create opportunity costs that will profit-maximising companies that take into account in their operations.

Solving existing problems in the field of environmental protection requires setting the priorities among established environmental problems and determining the economically efficient strategies for their resolution. In this process, adequately determined prices and use of economic instruments play an important role. Through economic instruments, the efficient allocation of resources is influenced and rational behavior consistent with the concept of sustainable development promoted, thus enabling the effective achievement of objectives of environmental policy.

Economic instruments are an essential important group in a wide range of policy instruments in the field of environmental protection. ``The goal of their use is to encourage change in the structure of incentives measures for the behavior of economic factors through internalization environmental or costs arising from the consumption of resources`` [7, pp. 178]. Justification for the application of economic instruments is based on the inclusion of environmental external effects in calculating those responsible for creating adverse effects on the environment of the process of production and consumption. Economic theory holds that the side effects of externalities are the costs to society. These external costs can be internalized by introducing taxes or fees for the products or processes that produce external effects. Such measures can be, in turn, accompanied with price increase and switching the producers and consumers to alternative products and processes that do not bear such payment obligation.<sup>2</sup>

One of the main features that distinguishes the economic instruments of the traditional regulatory command and control instruments is that, in achieving the objectives of environmental policy, economic instruments promote market approach. Two basic functions of economic instruments are:

- stimulating environmentally acceptable behavior of economic factors, and

---

<sup>1</sup> Liability can also be viewed as an incentive-based instrument.

<sup>2</sup> A typical example is the price paid for the treatment of waste packaging. The manufacturer includes the cost of packaging in the price of the product, but the cost of treatment of waste packaging (collection, disposal in landfills or burning) shall be borne by someone else. There is a perception that the costs of use and disposal of products should also be included in its price and to bear the one who produces and consumes it. Product price should reflect the actual total costs.

- generating income to the concentration of financial resources for investments that improve the quality of the environment (rehabilitation programs, technologies to remove pollution, education, etc.).

“The main task of economic instruments is to ensure adequate valorization of environmental resources in order to promote their efficient use and allocation. If the price of environmental goods and services is properly measured, then creating the conditions of their gender with other factors in the market and their clear - sustainable allocation is assured. Correct application of price - eg. in the case of pollution - ensures optimum use of the environment because the marginal costs of reducing pollution are equals the marginal costs of environmental damage. Environmentally friendly products and services are not market products, although many methods was developed that attempt to achieve approach to determining the ecological prices” [2, pp. 15].

These instruments are also very important mechanisms through which environmental policy not only assures resources to finance investment in the environment, but also promotes environmentally acceptable behavior of economic agents. Considering that they realize a great performance in the application, we can argue that economic instruments in environmental policy play an important role in regulating the environmental effects of foreign direct investment in the host country.

### **Comparative analysis of environmental policy instruments**

Environmental policy, through limiting the emission of pollutants through legislation, introduction of the environmental taxes, subsidies or tradeable permits, represents a very important factor that encourages companies to develop and accept new environmentally suitable facilities or technology. Different instruments of environmental policy create different effects on intensity and course of technological changes. Dominant perception today is that market-based instruments give greater impetus for the acceptance of more efficient and better technology to control pollution in regard of comand and control instruments. The main argument that such a belief is justified is that environmental policies based on command and control approach, such as definition of emission limits for the installed capacity, do not provide compensations or other measures of incentives if the company reduces the level of emissions below the required levels. Though, in the conditions when environmental policy applies market-based instruments, companies that achieve better environmental performances than prescribed will be stimulated to their further improvement due to reduction

### **The Impact of Environmental Policy in Shaping the Environmental Performances of Foreign Direct Investment**

---

of tax liabilities, and due to the possibility of trading pollution permits. Command and control approach acts in the direction of limiting the innovative efforts of company and identifying those alternative that are more long term cost-effective.

“Command and control approach involves direct regulation, the application of monitoring system, the primary use of regulatory mechanisms, such as standards, permits, approvals and privileges particularly in controlling the use of water and soil. When it comes to reducing pollution levels, this approach involves a large regulatory power of the state in the field of prognostic elements for individual sectors, technologies and capacities. This approach is relatively difficult to implement and is used mainly in countries where the regulatory tightness is the way of life” [8, pp. 68]. This approach to environmental policy is applied in the United States, China and some EU countries, such as Germany.

Command and control approach comprises the usage of the legal established standards, which are aimed at the realization of improvements in environmental quality. Such a regulatory approach in protecting the environment is characterized by some advantages in its implementation. The first advantage refers to existence of long term experience in other areas of public importance, such as health and safety. Another advantage is that the regulations represent effective way for drifting prevention of irreplaceable damage to the environment. The third advantage refers to the fact that implementation of regulations endorse the achievement of desired goals.

On the other hand, command and control approach is characterized by a number of shortcomings:

- Difficulty in enforcement command and control instruments attempt in existence of numerous “controls, administrative requirements, staff (inspectorate, corps of engineers, lawyers etc.), legal procedures in case of non compliance etc.
- They may be too easily subject to bargaining and negotiations between public authorities and the private sector, and possibly subject to corruption” [1, pp. 8].
- Command and control instruments have static character and provides negligible incentive to technical improvement.
- From an economic aspect, regulations appear as less efficient than economic applied instruments (taxes, charges and tradeable permits) in environmental policies.

There are a number of economic instruments for the implementation of economic approaches in the management of natural resources and the implementation of environmental policy. Any instrument that aims at inducing a change in the behavior of economic agents by internalization of environmental costs or costs of exhaustion of natural resources is qualified as an economic instrument. Economic instruments through the market mechanism route behavior of economic actors towards achieving the desirable situation in the environment. The application of economic instruments in achieving of the goals of environmental policy can be conducted independently, when they appear as substitutes for other instruments of environmental policy or complementary to other instruments. For instance, the introduction of the market factors in command and control access may encourage economic actors to take greater measures of protection from pollution and lead to the development of effective economic solutions of a given problem.

In contrast to command and control approach, market-based approach to environmental policy is more flexible and offers the possibility, in accordance with market signals, for the economic entities to make a free choice of measures to control pollution, which are most effective for the solution of the problem in question. Economic instruments in environmental policy have a number of substantial advantages over regulatory instruments of command and control approach:

- Economic instruments represent the key instruments for achieving environmentally sustainable development. This is since by integrating environmental issues in the problems of economic selection, economic instruments promote the displacement in the allocation of resources towards those activities that are environmentally clean and economically attractive.
- Economic instruments offer the possibility of closing the gap between private and social costs by internalizing external cost to their sources, producers and consumers of resource exhausting products and products that pollute the environment, so as to reflect the actual costs of pollution in the price of products and services. According to the principle 16 of the Rio Declaration, national authorities should strive "to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution with due regard to public interest and without distorting international trade and investment (UN 1992)" [5, pp. 5]. In fact, the use of economic instruments on the „polluter pays



### **The Impact of Environmental Policy in Shaping the Environmental Performances of Foreign Direct Investment**

---

principle, implying recognition of environmental costs in production and consumption, by the integration of these costs in the decision making process.

- Economic instruments contribute to significant economic savings, that is they encourage the reduction of pollution and contribute to achieving environmental objectives at the lowest cost. The advantage of economic instruments are reflected in the fact that they encourage producers and consumers to take environmental problems in making a decisions and minimize the usage of resources and level of waste as it is possible.
- Economic instruments are not only cost-effective (static efficiency), but also offer permanent incentives for environmentally acceptable behavior of economic actors. This is called dynamic efficiency of economic instruments which is reflected in stimulating technological changes through the activities of research and development technologies for control and reduction of the pollution level, development of environmentally clean production processes and production of products that do not pollute the environment. By encouraging the application of environmentally efficient technology the opportunity is offered to economic actors for realization not only of savings in the cost of environmental accomodation, but also savings in the amount of tax liability.
- Economic instruments provide flexibility not only to the competent authorities, in the terms of their easy modifications and accomodation in relation to changes in regulations, but also to the business entities, in the sense of freedom of choice of methods for the most effective pollution control.
- Economic instruments represent an important source of funds to finance investment in environmental protection since they generate incomes that are specifically allocated to the protection of the environment.
- Economic instruments contribute to the conservation of resources and their transmission.

Considering these specified benefits, it could be concluded that the inclusion of market-based approach into the environmental policy will contribute to improving the effectiveness of this policy. It is certain that none of the approaches to environmental policy will provide optimum results in every situation. Environmental policy based on market mechanisms and the implementation of economic instruments, as evidenced, shows the advantages and disadvantages, as well. However, the advantages of

economic instruments are that great to encourage more and more reliance on the usage of these instruments in solving the practical problems of pollution and environmental degradation in many situations.

However, there are some environmental problems that can not be solved by relying exclusively on economic instruments and therefore require a combined approach to environmental policy. The practice has shown that in most cases the application of combined system (command and control instruments plus economic instruments) is an environmentally justifiable way of achieving the established environmental goals. It is because the use of command and control tools assures reducing the degree of uncertainty, while the use of economic instruments offers flexibility in solving environmental problems. However, it is important to note that the scale and effectiveness of implementation of economic instruments in achieving environmental policy goals largely depends on the degree of development of market institutions and market mechanisms, economic and political structures, and others.

### **Conclusion**

Developing countries and countries in transition can achieve some environmental improvements using economic instruments, if these instruments are to be introduced at the earlier stages of the evolution process of environmental policy. Really, economic reforms and structural accommodations offer a uniform chance to implement economically justified and environmentally efficient instruments for environmental protection.

There are many problems that should be solved and preconditions that should be fulfilled in order to enable effective implementation of economic instruments of environmental policy in developing countries and countries in transition, and, consequently, stimulate environmentally responsible behavior of foreign investors. The following can be emphasized according to their importance:

- 1) Neutralizing the shortcomings in state intervention.
- 2) Establishment of an efficient economic structure, which includes the functioning of markets, control inflation, efficient and transparent flow of information to economic subjects, and removal of monopolies.
- 3) Development of institutional structures and administrative skills, which include:
  - clearly defining property rights,
  - clearly defined and stable regulatory system,

### **The Impact of Environmental Policy in Shaping the Environmental Performances of Foreign Direct Investment**

---

- development of adequate institutions, especially the fiscal structure and administrative skills,
  - adoption and usage of the polluter pays principle;
- 4) The effective combination of incentives and redistributive functions of economic instruments.
  - 5) Measures in the area of tax reform, paying attention to the removal of environmentally harmful subsidies and cost expensive subsidies, identification and removal of environmentally harmful taxes or tax exemptions, adjusting existing taxes in solving environmental problems and development of new eco-taxes.

The role of foreign direct investment in improving the environmental performance is undoubtedly of great importance to developing countries and countries in transition, because they secure the most effective and most favorable transfer of environmentally clean technology, and environmental know-how, which should support the goals of sustainable development. The role of a government is to create such an economic and legislative system, in which a current system of environmental regulations, with the support of economic and fiscal measures, will alleviate the acceleration and increase demand for the transfer of environmentally clean technologies. Despite the fact that the impact of policies will still be reflected through the application of environmental regulations and standards, it is necessary to make gradual steps towards the development of such regulatory regimes that will provide, with the combined application of economic instruments and voluntary approaches, greater flexibility in achieving economic results, and encourage environmental responsibility in production and implementation of market operations by the multinational corporations.

#### **References**

1. Bard, Jean-Philippe, Economic instruments in environmental policy: Lessons from the OECD experience and their relevance to developing economies, OECD Development Centre Working Paper No. 92, January, 1994.
2. Njegovan, Z., Ekonomski instrumenti kao element održive politike zaštite životne sredine, Industrija, br. 3, 2004.
3. OECD, Environmental Directorate (Centre for Tax Policy and Administration), Impact of environmental policy instruments on technological change, (Joint Meetings of Tax and Environmental Experts), COM/ENV/EPOC/CTPA/CFA(2006)36/FINAL, 2007.
4. OECD, Voluntary Approaches for Environmental Policy, Paris, OECD, 1999.
5. Panayotou, T., Economic instruments for environmental management and sustainable development”, United Nations Environment Programme (UNEP)

and Environment and Economics Unit (EEU), Environmental Economics Series, Paper No. 16, December, 1994.

6. Perman R., Ma Y., McGilvray J., Common M., Natural Resource and Environmental Economics, Pearson, Addison Wesley, 2003.
7. UNDP, Vodič za dobro upravljanje u oblasti životne sredine, Regionalna kancelarija za Evropu i Zajednicu nezavisnih država UNDP-a, Beograd, 2003.
8. Zeković, Slavka, Ekonomski i tržišni instrumenti u politici održivog razvoja u Srbiji, Industrija 1-4, 2002.

### **UTICAJ EKOLOŠKE POLITIKE NA OBLIKOVANJE EKOLOŠKIH PERFORMANSI STRANIH DIREKTNIH INVESTICIJA**

**Rezime:** Ovaj rad ima za cilj da na osnovu komparativne analize karakteristika instrumenata ekološke politike ukaže na prednosti i nedostatke u njihovoj primeni u rešavanju ekoloških problema. Praksa je pokazala da u većini slučajeva primena kombinovanog sistema (komandno-kontrolni instrumenti plus ekonomski instrumenti) predstavlja ekonomski opravdan način za ostvarivanje postavljenih ekoloških ciljeva. Takva analiza poslužiće kao osnova za utvrđivanje efikasnosti primene ovih instrumenata na poboljšanje ekoloških efekata stranih direktnih investicija na zemlju domaćina.

**Ključne reči:** ekološka politika, strane direktne investicije, kontrola zagađenja, komandno-kontrolni, tržišno zasnovani instrumenti.



UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"

Year XLVIII, N° 4, 2010, p. 589 - 604

Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš

Phone: +381 18 528 601 Fax: +381 18 4523 268

## INFLUENCE OF EMOTIONAL LEADERSHIP ON EMPLOYEES' ATTITUDES

Snežana Vujović\*

**Abstract:** *The theory of emotional events is based on unique ideas that attribute a leader a significant role in creating organizational environments. Through behavior demonstrated in the interaction with those who are managed, the leader influences the positive and negative emotional events in the organization, directly impacting on the formation of attitudes of employees towards work and the organization they belong to. Proceeding from this insight, the paper shows that the application of transformational leadership model (idealized influence, inspirational motivation, intellectual stimulation and individual matter) and the intelligent use of positive emotions in business encourage positive mood among employees and in accordance with it, the demonstration of positive emotional reactions to the job and the organization as a whole. Job satisfaction and organizational commitment as well as positive changes in the attitudes of employees are considered key performance indicators of a transformational style of leadership.*

**Keywords:** *transformational leadership, positive emotions, attitudes of employees, job satisfaction, organizational commitment.*

### Introduction

Transformational leadership as the dominant direction of research of interaction between the leader and employees is based on the power and values shared among them, while they strive towards real changes that reflect their mutual purposes and goals. The approach which is based on the theory of transformational leadership in scientific circles is generally defined as a completely new and different compared to earlier studies of this phenomenon. First, the new paradigm in the leadership recognizes the

---

\* High school business studies, Blace, E-mail: snezanavujovic@hotmail.com

UDK 005.32:331.101.32, Review paper

Received: 04.11.2009. Accepted: 25.10.2010.

importance of emotions in business as an engine of every human activity. It turned out that the leadership is an emotional process, that success is largely determined by the leader's emotional abilities on which will depend how to deal with frustrations, how to control a bad mood and what the interaction with others will be like. Second, the transformational approach to leadership recognizes the important role assigned to leader in creating results that are significant, both for the employees themselves, and the organization as a whole. With their intellect, specific knowledge and skills they have, leaders may ensure added value to organization and thus a specific position in the market, because it is assumed that as role models they will encourage employees' desires for action and continuous improvement. Through its respecting and including emotions in business, not only rationality, then emphasizing the place and role of the leader in creating a positive emotional climate that will enable achievement of organizational goals and expected results, transformational leadership represents a synonym for successful business.

In the need to define and explain almost every type of efficient leadership, the concept of "transformational" is used in order to indicate the transformation of the employees as individuals, and organizations themselves, because achieving change is a crucial segment of this model of leadership. Although a conclusion from the existing literature can be drawn that theorists of transformational leadership stand in different positions when it comes to the realization of specific changes (of values, attitudes and behaviors of employees and / or institutional changes), the largest number of models is conceived at the level of manager - employee relationship. Their main interest is explaining the direct impact of the leader on the employees as individuals, without direct testing of the group, i.e. achieving organizational change. Therefore, any change in attitude of employees in terms of pleasure and commitment to their work and the team they belong to, in addition to their pro-social behavior and achieving high performance, is considered a priority task and an important indicator of leadership performance.

Satisfaction of employees and their commitment to the objectives and results of the organization, or dissatisfaction with performed work or the organization they belong to, are determined to a large extent by the behavior of the leader. In his/her mental ability to build positive organizational spirit he/she encourages optimism and confidence and expresses confidence in his/her colleagues, respects their opinions and ideas, or in contrast in his/her achieving egocentric goals, he/she turns into a powerful and authoritative

### **Influence of Emotional Leadership on Employees' Attitudes**

---

figure that places emphasis on obedience, hierarchy, discipline, firmness command and control.

The role of the leader in determining attitudes of employees, occupies a dominant place in the theory of emotional events. Starting from the idea that the actions of the manager directly stimulate different emotions among employees, they also directly shape their attitudes towards work and organization. Positive emotions and feelings encourage satisfaction and organizational commitment, while a negative mood through emphasized frustration and a negative attitude toward business and leaders can have a long term effect on the decisions of employees to leave the organization.

In accordance with these results there is a wide range of behavior that a transformational leader manifests in interaction with employees: performs idealized influence, motivational inspiring, intellectually stimulates and recognizes the individual needs of each member of the business community, reflected not only through the establishment and maintenance of mutually close emotional ties with those who manage, but also through the identification of the organization they belong to. Therefore, the question is whether the different behavior of a transformational leader is the consequence of talent or internal resources to the emotions, to include primarily positive ones, consciously, in operations, minimizing and controlling the negative feelings and thus building and fostering a positive organizational climate and the close social interaction. In other words, does the leader's ability to express intelligently, and encourage the use of positive emotions and manage them affect the forming of a positive attitude of employees?

The idea that positive emotions play an important role in the management is confirmed in the extensive literature in which the emotions are associated with those same final results achieved within the process of transformational leadership. Numerous studies show how emotions affect the motivation, creativity and performance, interpersonal communication, absenteeism, negotiation. So Isen [1] proved that positive feelings can influence enhanced problem-solving and decision-making, and increased cognitive processing of information that is not only flexible, innovative and creative, but thorough and efficient. Levis [2] confirms in her findings the perception of the manager as less effective, if expresses negative emotions. Barsade [3] argues that the spread of positive emotions can increase group cooperation and reduce group conflict. Positive emotions contribute to the effective evaluation of management, i.e. the ability of the manager to exercise through a positive emotional expression significant effects on the perception of management as being efficient. Leadership theorists generally

emphasize the generally accepted position in which the expression of positive emotions, enthusiasm and above all, satisfaction, unlike the expression of neutral or negative emotions affects the perception of transformational leader as an efficient one. The results of multiple studies involving transformational leadership and positive emotions, confirm the previously stated findings: leader is perceived and evaluated as more effective in situations, where positive emotions are expressed [4].

In this paper, I will demonstrate that the ability of transformational leaders in implementing and fostering positive emotions in business as well as their inner potential for any conduct that demonstrates the organizational interactions, influences the creation of a sense of satisfaction and commitment among employees, a willingness in performing work tasks, or identifying with organization in which one operates. The interpretation of components of transformational models of leadership and the core ideas of the theory of emotional events contribute to a better understanding of the necessity of inclusion of positive emotions in leadership and management in organizations through a demonstration of behavior that expresses mutual respect and trust, respect of other people's opinions and ideas, recognizes and understands different opinions and feelings, allows independence in carrying out work tasks and encourages creativity in work. The above behavior implies positive attitudes of employees and positive emotional reactions.

### **1. Components Model of Transformational Leadership**

The model of transformational leadership consists of four components: idealized influence, inspirational motivation, intellectual stimulation and individualization consideration [31].

The first of four components or rather a set of different behaviors head is idealized influence. Managers that are confident and aware of their own leadership behavior have a high degree of commitment to achieve organizational goals. Their business, and moral standards are high, as they carry with them great responsibility for their actions. All the time, transformational leaders recognize the achievements of associates. The consequence of this behavior is gaining trust and respect of their employees. Eventually, they become their role models, encouraging a strong sense of pride in belonging to the organization.

Inspirational motivations include the ability of the leader to motivate and inspire employees. Communicating positive and encouraging messages that spread enthusiasm and optimism in the possibility of fulfilling the organization's objectives, a leader expresses strong confidence in the knowledge and skills of their employees, thus affecting their self-



### **Influence of Emotional Leadership on Employees' Attitudes**

---

perception[5] and self-efficacy (awareness of the importance of realizing the vision affects willingness in setting personal, concrete objectives) [6]. Besides the ability to formulate strategic direction and demonstrate commitment to shared vision, the lead creates a sense of collective identity among employees. Interests, values and beliefs of employees, on the one hand and the activities, goals and ideology of the other managers, on the other, become congruent and complementary [5]. And that is the main objective of managers to engage employees in forecasting a common future. Creating and painting a positive, optimistic view of the future is the basic technique of the lead in the inspiration and motivation of his/her employees [7].

Encouraging employees to engage in a process of creative thinking and creative problem solving is a fundamental idea of intellectual stimulation transformational leadership. Security complex, challenging work assignments and facilitating autonomy in their implementation, control and without the additional pressures, employees are encouraged to create and implement new ideas and teaching approaches to old problems in a completely new and different way.

Individualization consideration is based on the abilities of leaders in recognizing the individual needs of employees and developing their potential for achieving higher levels of performance. Approaching without bias each individual employee, the leader is able to diagnose developmental needs of each of them, and accordingly establish appropriate interpersonal mentoring relationship. Individualization consideration which manifests, leader actually provides much more general support to the efforts of employees, encouraging their autonomy and enable them to take responsibility in accordance with greater expertise and interests. Develop competent staff through a genuine emotional connection with them is the main feature of this component model.

### **2. The Theory of Emotional Events**

The theory of emotional events [8] starts from the basic idea that certain factors in organizational environment determine behavior and attitudes of employees towards work and more importantly produce some positive and negative emotional events. Emotional events, in turn, encourage endowment among employees of different emotions, thus indirectly affecting the formation of their attitude (job satisfaction, organizational commitment and loyalty), and demonstration of those behaviors that are influenced by emotions (impulsive actions, spontaneously helping others or providing additional current efforts). Attitudes towards work have long-term effects in

influencing decisions about leaving a job, engaging in pro-social behavior and contributing to a greater or lesser productivity at work.

In accordance with the theory of emotional events, the leader is perceived a crucial component of organizational environments. By behavior and how to interact with those managed, the leader becomes a creator of positive and negative emotional events in the organization. Stimulated by his/her concrete actions, employees are constantly experiencing positive or negative emotions, which may directly affect the determination of their attitude towards work and the organization as a whole. Also, the characteristics of the job itself can directly shape the attitudes of employees: if you are comfortable with performing tasks that are mentally challenging, rather than simple and routine, while challenging work should be interpreted as the ability of leaders to enable freedom of action and carry out various tasks.

The importance of the theory of emotional events is reflected in the fact that the emotional states of employees are considered crucial in forming their attitude toward work and the expression of behavior in the organization. For these reasons, the emotions in organizational conditions and events caused them not to ignore, even if at first glance may seem relatively minor.

Starting from the opinion that the attitudes of employees towards work and the organization as a whole are a product of positively experienced emotions, the theory of emotional events is of the opinion that these types of emotions are triggered by (caused by) the behavior demonstrated by the leader in the interaction with employees. In the range of empirical research in direct influence of the behavior of leaders on employees' experiencing positive emotions, the results generally indicate the following [9]: leader's procedures aimed at experiencing feelings of encouragement, serenity, happiness and pleasure, usually include awareness of the importance of the role of employees in the organization and respect of their ideas and opinions. Inspiration and motivation of employees, also contribute to fostering positive emotions (admiration, excitement and enthusiasm). Providing autonomy in carrying out work tasks, without control of the manager and getting the quality of interpersonal communication, in a somewhat lesser extent than expected, are estimated as incentives of positive feelings. Encouraged by the appropriate management procedures (awareness and appreciation, inspiration, motivation, autonomy, effective communication), behavior of employees reflected respect for the manager, perceiving him/her as a model, with a desire for identification, greater motivation for work, engagement in pro-social behavior [10]. Job satisfaction, positive opinion of the manager

### **Influence of Emotional Leadership on Employees' Attitudes**

---

and organizational commitment, interpreted as a positive employee attitudes towards management, business or organization to which they belong, are also a consequence of manager's behavior.

Although, in the mentioned study, behavior of transformational leaders is not emphasized, actions such as awareness and appreciation, "autonomy", "motivation and inspiration," "effective communication" undoubtedly refer to them. Behavior of the leader is actually incorporated into the basic components of the transformational leadership model (idealized influence, inspirational communication, intellectual stimulation, individual development) and represents its essential ideas. Accordingly, it is necessary to assume that through presentation of transformational behavior, executives encourage experiencing positive emotions among employees (encouragement, peace, happiness, satisfaction, enthusiasm), and positive emotional responses (compliance management, job satisfaction and emotional commitment to the organization).

Results of previous theoretical and empirical research actually support unambiguously position in which the expression of positive emotions by the manager and encouragement of employees' positive reaction is one of the basic psychological processes of transformational leadership's connection with the final results of its efficiency, such as satisfaction, motivation, inspiration, trust and organizational commitment. In other words, the success of this model of leadership should be seen as the ability of leaders to create a positive emotional climate that provides an emotional connection between employees with the organization they belong to.

### **3. Behavior of Transformational Leaders and Attitudes of Employees**

#### **3.1. Job Satisfaction and Organizational Commitment to Employees**

Job satisfaction, although defined in different ways, is considered as the emotional state of an individual resulting from evaluation or appraisal of their own work survival [11] or as a psychological state expressed through both cognitive and emotional indicators [12]. Job satisfaction is a complex attitude that includes certain assumptions and beliefs about work (cognitive component), feelings toward work (emotional component) and the assessment of work (evaluation component).

Defining organizational commitment suggests a positive emotional state of the individual - sense of sharing their own beliefs and values with organizational ones [13]. Organizational commitment is a positive attitude that employees feel not towards his/her own work, such is the case when he/she is pleased with it, but the organization as a whole or to some of its

members. As such, the very term commitment indicates a considerably higher level of emotions that employees feel rather toward the organization, than when it comes to job satisfaction. Organizational commitment indicates the deep commitment and willingness of employees to make sacrifices for their organization. Essentially, it presupposes positive emotional connection of employees with the organization, identifying with it, and preoccupation with it [13]. Emotional dimension to the connection of employees with the organization, without the involvement of cognitive foundations or obligations of employees that it must or should remain, refers to the emotional (affective) commitment to the organization.

Despite the conceptual and empirical differences between these attitudes of employees [14]<sup>1</sup>, job satisfaction and emotional commitment are the theoretical and empirical sense of common characteristics. It turns out that even correlation between emotional commitment and job satisfaction is stronger than mutual relationship of different forms of organizational commitment (affective, normative and continuous) [15], and the relations among the indicators of other general constructs. Attitudes of employees towards work and organization are not considered prescribed procedures and second, job satisfaction and organizational commitment are the products of positive emotions that employees experience. The positive attitude of employees caused by positive emotions [16], and the satisfaction and organizational commitment should be viewed as positive emotional reactions of employees.

### **3.2. Idealized influence and organizational commitment**

Component of transformational leadership model that refers to the quality of mutual interactions of the leader with employees based on mutual confidential relationship is idealized influence. Pro-social and altruistic behavior as a result of the leader's experiencing positive emotions affects similar emotional reactions of employees and their willingness to continuously include time and emotion in the maintenance of close interpersonal relationships with executives and organizational emotional connection.

Honest communication of personal emotional state has been proved important to the process of establishing cooperation, precisely because it reveals the desire and intent of the individual, but also affects decisions of

---

<sup>1</sup> Hulin emphasizes conceptual goal as the only difference between them. The aim of job satisfaction is one's position or role in the business, the goal of affective commitment is the whole organization (Hulin, 1991: 489)

### **Influence of Emotional Leadership on Employees' Attitudes**

---

others that will continue to cooperate or not [17]. Emotions in interpersonal relationships convey that kind of information [18, 19] because verbal and/or non-verbal expression of positive emotions may be an indicator of sincere intention to achieve cooperation, helping others and generosity [20]. Despite the impact of idealized transformational leadership as opposed to inspiring communication is not based on verbal expression of emotions, external manifestations of positive emotions inherent in these leaders still gain importance in those social interactions that are based on trust. Especially, since the non-verbal emotional indicators of the leader can generate the perception of his/her sincere intentions and motives in achieving organizational goals, orientation toward the needs of employees, but also the quality of their mutual relations.

Communication confidentiality as primarily an emotional process that evaluates the part of the communication of emotions and feelings [17] allows the expression of emotion is interpreted as the product of their true survival. The ability of expressing sincere emotion is therefore fully realized in those interpersonal relationships in which trust is considered the most important determinants of success and intimacy. Trust as a general characteristic of the mutual relations between transformational leaders and employees, but the primary idea of idealized influence in the leadership, can undoubtedly make that the arbitrary behavior of the leader that demonstrates interpersonal effort, before their own interest, the key for the development of emotionally-based trust [21]. It has been proven that those procedures that are consistent with values that represent the manager motivate precisely positive emotions targeted to others (the feelings of respect, gratitude, interest) [22].

Pro-social and altruistic behavior of leaders confirms their ability to express sincere experience of positive emotion, it also directly stimulates similar emotional states among staff, demonstration of respect, trust, and expresses positive attitudes towards work and the organization whose members are. The desire for identification with the leader or imitating his/her behavior is a response of employees to conscious expressed positive emotions of the leader. Identification with the leader's procedures with a high commitment to highly set organizational goals stimulates sense of pride among employees for their belonging to the organization, directs their decisions to stay, while expressed confidence in interpersonal relations stimulates desire to achieve organizational goals through know-how and skills.

### 3.2. Inspirational Motivation and Organizational Commitment

The ability of transformational leaders to inspire and motivate their employees is expressed in their inner potential to present the future of the organization, regardless of the perception of employees colored by fear, concern, uncertainty, uncertainty, as optimistic and affirmative. Communication of positive and encouragement of messages, expressing confidence in the knowledge, skills and abilities of employees and emotionally connecting with them, are effective means for achieving organizational leaders' vision. In fact, the use of emotional message about optimistic orientation towards the future and communication of confidence in achieving a common vision suggest the ability of leader in the effective use of positive emotional information. Positive emotions - optimism, enthusiasm and stimulation among their employees, implies confidence in their own abilities achieving organizational goals.

Emphasizing the use of emotionally-positive results in business vocabulary is one of the fundamental theoretical and empirical findings: spontaneous and often unconscious match of the mood and opinions (mood-congruent-Judgment) [23]. To the question of why positive emotions lead to positive thinking and negative thoughts are the product of an unpleasant mood, the answer is that the theoretical study is based mainly on the informative role of emotions. Negative mood encourages negative thoughts and ideas, which leads to pessimistic behavior affecting the stronger focus on the possible negative events and bad results [24]. Positive individuals mostly remember feeling happy and optimistic about the act, renowned and reliable manner, and the events and circumstances perceived and interpreted in a more positive way, unlike the individuals expressing negative mood. Focus on positive results and sensitivity to positive rather than negative events is also the result of a positive mood. In this context, the environment is perceived as a set of favorable opportunities and challenges, their own chances for future success is evaluated favorably and previous successes attributed to themselves, rather than to external factors.

A positive mood of the leader and communicating optimistic messages, aside from transmitting information that the working environment is not problematic, and that the organization is not facing uncertainty, and that future circumstances may be perceived as favorable opportunities, foster a similar emotional state among the employees. Positive mood is reflected in their own evaluation efforts, encouraging self-confidence and willingness in establishing personal, concrete goals. Approval of organizational objectives and employee presumes the basis for their commitment to the organization, because the employee shares its goals and interests and in achieving the

### **Influence of Emotional Leadership on Employees' Attitudes**

---

goals that the organization sets sees the best way to achieve his/her personal goals. Employees remain in the organization and sacrifice for it, because they agree with its direction of action.

#### **3.3. Intellectual Stimulation and Attitudes of Employees**

Intellectual stimulation of employees by encouraging their creative thinking and creative problem-solving ability is implemented through the leader's ability to create such an organizational environment in which employees with autonomy can completely execute complex and challenging tasks. Although the characteristics of a job - challenge, autonomy and diversity are important organizational prerequisites for stimulating creativity and innovation among employees, they are considered at the same time the most important causes of satisfaction [25], especially as complete freedom in carrying out work tasks encourages experiencing employees' positive emotions, enthusiasm and high level of motivation.

Knowingly and intentionally encouraging a positive mood among staff dominates especially in conditions demanding innovation and creative behavior, re-formulation of the problem and access to the old situations in a completely new way. Awareness that positive emotions broaden the repertoire of thoughts and behavior, and hence encourage creativity and innovation, enables the leader to supporting independence and by expressing confidence in the ability of employees to perform the tasks successfully, spreads a positive mood in the organization.

Through support, the executives actually try to influence the employees to experience positive emotions and express them in a way that will contribute to the expression of creative abilities. Within the intellectual stimulation, leader's support is reflected by creating conditions in which employees own control and influence the execution of business tasks, while possessing the deep inner knowledge of the ways of their performance and creating a sense of their own investments in performing work assignments. Autonomy in the work contributes to experience and expression of positive emotion among employees, and indirectly the expression of creative abilities. Negative emotions, usually frustration, are the consequence of lack of autonomy in carrying out work tasks and implementing the leader's control and performance pressures, which is confirmed in the results of specific research [9].

On the other hand, the autonomy in choosing the way of performing works tasks or so. "Psychological ownership" [26] contributes to the satisfaction of basic psychological needs of employees: belonging, control, influence and self-identity [27]. Possessive emotions of employees in terms

of «job is mine» as a result of self-control capabilities and the impact on the execution of work tasks, directly contribute to greater job satisfaction. Also, the possessive feelings of employees towards the organization meet their basic need for belonging. According Beggan [28], individuals, in general, become attached to things they have, unlike the feelings of possessiveness which are not evident. Experiencing the organization as one's own (psychological domain) is a precondition for creating a positive emotional connection with her employees, which produces an emotional commitment.

### **3.4. Individualization Consideration and the Attitudes of Employees**

Development and psychosocial support of transformational leaders contained in the component model of leadership - individualization consideration are directed towards the personal development of employees. Although the development-oriented leadership towards realizing "transformation" of employees is based on the altruistic intentions of leader, and psychosocial support is grounded on the leader's empathic responses to employees, both encourage the experience of positive emotions. Encouraged not only by direct increase in the knowledge, skills and abilities, but also by the establishment of mutual acquaintanceship with the manager and mutual trust, positive emotions of employees are expressed in job satisfaction and career, personal-professional balance and greater expectations in terms of achieving success in their career. Providing a whole range of developmental and psychosocial incentives, the leader can actually accomplish a higher level of mutual commitment, which is considered key to personal development of employees.

The progress and rewarding employees as an objectively measurable indicators and emotional (subjective) indicators of the success of employees (commitment to the organization, job satisfaction) are the final effects of individualization consideration. It is realistic to expect that the development-oriented and psychosocial leadership differ in their power relations with different outcomes of employees. Namely, the professional support of the leader contributes to those aspects of work including objective success in the employees' career, and the psychosocial support functions represent deeper, emotional aspects of relationships and rely more on the quality of mutual relations [29], and are associated with the emotional (affective) performance results, such as job satisfaction and commitment to the organization. However, the results of certain studies [30] indicate that the development aspects of leadership emerge as an important creator of positive attitudes of employees in relation to job and career opportunities. A possible explanation is the information and instrumental social support of the leader directed towards increasing the confidence of employees in decision making related



## **Influence of Emotional Leadership on Employees' Attitudes**

---

to personal career growth and their effectiveness in challenging tasks assigned to them.

### **Conclusion**

Despite the differences observed among the components of transformational model of leadership, considering the roles that the leader takes in each, his/her positive influence on changes in attitudes and behaviors of employees is a common feature. In fact, by communicating inspiringly the attractive vision of the future, providing leadership model consistent with the vision, stimulating employees to accept the defined goals and individual development of each of them, a successful transformation leader changes the basic values, beliefs and attitudes of employees towards their readiness and willingness to provide additional effort than the minimum required.

Successful leadership is rather emotional than a cognitive process; it has been proven that the better results in motivating and inspiring employees are exercised rather through their emotional engagement, than the logical and cognitive mechanisms. Therefore, the final conviction is that the transformation style of leadership, which is the "emotional leadership" in essence, achieves much better long-term results significant for the organization. In a theoretical sense, transformational leadership performance is based on selfless inclusion of emotions in thinking, making important business decisions and achieving the final organizational goals, while stressing the need for thinking about emotions and their intelligent use, confirms that quality relationships between managers and their employees, and positive organizational spirit form and develop the emotional skills of a manager. The use of positive emotions in the leadership and operation as evidenced in sincere intentions and behaviors of leaders influences the creation of a sense of job satisfaction and organizational commitment. In this sense, shaping positive attitudes of employees clearly puts before the leader the task of successful implementation of transformational models of behavior in which positive emotions, their expression, use and efficient management occupies a dominant place.

### **References**

1. Isen, A. M. (2001), "An influence of positive affect on decision making in complex situations: Theoretical issues with practical implications", *Journal of Consumer Psychology*, 11(2), 75-85.
2. Lewis, K. (2000), "When leaders display emotion: How followers respond to negative emotional expression of male and female leaders", *Journal of Organizational Behavior*, 21, 221-234.

3. Barsade, S. (1997). The ripple effect: Emotional contagion in groups. Manuscript submitted for publication. Yale University.
4. Newcombe, M. J., Ashkanasy, N. M. (2002), "The role of affect and affective congruence in perceptions of leaders: An experimental study", *Leadership Quarterly*, 13, 601-614.
5. Shamir, B., House, R. J., Arthur, M. B. (1993). "The motivational effects of charismatic leadership: A self-concept theory." *Organization Science*, 4, 577--593
6. Conger, A. J. (1999). „Charismatic and transformational leadership in organizations: An insider’s perspective on these developing streams of research“, *Leadership Quarterly*, 10(2), 145-179.
7. Awamleh, R., Gardner, L. W. (1999), "Perceptions of leader charisma and effectiveness: The effects of vision content, delivery, and organizational performance“, *Leadership Quarterly*, 10(3), 345-373
8. Weiss, H. M., Cropanzano, R. (1996), „Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work,“ *Research in Organizational Behavior*, 8, 1-24.
9. Dasborough, M. T., Ashkanasy, N. M. (2002), "Emotion and attribution of intentionality in leader-member relationship", *Leader Quarterly*, 13, 615-634.
10. Johnson, S. K. (2008), "I second that emotion: Effects of emotional contagion and affect at work on leader and follower outcomes", *Leadership Quarterly*, 19, 1-19.
11. Locke, E. A., Schweiger, D. M. (1979), "Participation in decision-making: One more look". In B. M. Staw (ED.), *Research in Organizational Behavior*. Greenwich, CT: JAI press.
12. Brief, A. P., Weiss, H. (2002), „Organizational behavior: Affect in the workplace“. *Annual Review of Psychology*, 53, 279-307.
13. Meyer, J. P., Allen, N. J. (1991), „A three component conceptualization of organizational commitment“, *Human Resource Management Review*, vol. 1: 61-89
14. Tett, R.P., Meyer, J. P. (1993), „Job satisfaction, organizational commitment, turnover intention: Path analyses based on meta-analytic findings“, *Personnel Psychology*, 4, 259-293.
15. Allen, J. N., Meyer, P. J. (1996). „Affective, continuance, and normative commitment to the organization: An examination of construct validity,“ *Journal of Vocational Behavior*, 49, 252-276.
16. Fisher, C. D. (2000), „Mood and emotions while working: Missing pieces of job satisfaction?“, *Journal of Organizational Behavior*, 21, 185-202.
17. Boone, R. T., Buck, R. (2003), Emotional expressivity and trustworthiness: The role of nonverbal behavior in the evolution of cooperation“, *Journal of Nonverbal Behavior*, 27, 163-182.
18. Keltner, D., Kring, A. M. (1998), "Emotion, social function and psychopathology", *Review of General Psychology*, 2(3), 320-342.
19. Parkinson, B. (1996), "Emotions are social", *British Journal of Psychology*, 87, 663-683.

### **Influence of Emotional Leadership on Employees' Attitudes**

---

20. Isen, A. M. (1987). "Positive affect facilitates creative problem solving", *Journal of Personality and Social Psychology* 52: 1122-1131.
21. McAllister, J. D. (1995), "Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations," *Academy of Management Journal*, 38(1), 24-59.
22. Oakley, J. (1992). *Morality and the emotions*. London: Routledge.
23. Mayer, J. D. (2001), „Emotional intelligence“. In J. P. Forgas (Ed.), *The handbook of affect and social cognition*. Mahwah, NJ: Erlbaum.
24. Elfenbein, H. A. (2007), "Emotions in organizations: A review in stages", *Annals of the Academy of Management*, forthcoming.
25. Saari, L. M., Judge, T. A. (2004), "Employee attitudes and job satisfaction", *Human Resource Management*, 43( 4), 395–407.
26. Shalley, C. E. (1995), „Effects of coercion, expected evaluation, and goal setting on creativity and productivity“. *Academy of Management Journal*, 38, 483-503.
27. Shamir, B., Zakay, E., Breinin, E., Popper, M. (1998), „Correlates of charismatic leader behavior in military units: Subordinates' attitudes, unit characteristics, and superiors' appraisals of leader performance“, *Academy of Management Journal*, 41, 387–409.
28. Beggan, J. K. (1992), „On the social nature of nonsocial perception: The mere ownership effect“, *Journal of Personality and Social Psychology*, 62, 229–237.
29. Kram, K. E. (1985). *Mentoring at Work: Development Relationships in Organizational Life*. Glenview, IL: Scott, Foresman.
30. Hackman, J. R., Oldham, G. R. (1976), "Motivation through the design of work: Test of a theory", *Organizational Behavior and Human Performance*, 39, 250-279.
31. Bass, M. B. (1995). "Theory of transformational leadership redux", *Leadership Quarterly*, 6(4), p.465; Bass, B. M., Steidlmeier, P. (1999). „Ethics, character, and the authentic transformational leadership behavior“, *Leadership Quarterly*, 10(2), 181-217.

## UTICAJ EMOCIONALNOG RUKOVOĐENJA NA STAVOVE ZAPOSLENIH

**Rezime:** Teorija emocionalnih događaja polazi od jedinstvene ideje da se rukovodiocu pripisuje značajna uloga u kreiranju organizacionog okruženja. Ponašanjem koje demonstrira u interakciji sa onima kojima rukovodi, rukovodilac prouzrokuje pozitivne i negativne emocionalne događaje u organizaciji, utičući neposredno na formiranje stava zaposlenih prema poslu i organizaciji kojoj pripadaju. Polazeći od ovih shvatanja, u radu se pokazuje da primena transformacionog modela rukovođenja (idealizovan uticaj, inspirativna motivacija, inetelektualna stimulacija i individualizacija obzira) i inteligentna upotreba pozitivnih emocija u poslovanju, omogućuje podsticanje pozitivnog raspoloženja među zaposlenima i u skladu sa tim ispoljavanje pozitivnih emocionalnih reakcija prema poslu i organizaciji u celini. Zadovoljstvo poslom i organizaciona posvećenost, kao pozitivne promene u stavovima zaposlenih, smatraju se zato ključnim indikatorima uspešnosti transformacionog stila rukovođenja.

**Ključne reči:** transformaciono rukovođenje, pozitivne emocije, stavovi zaposlenih, zadovoljstvo poslom, organizaciona posvećenost.



UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"

Year XLVIII, N° 4, 2010, p. 605 - 613

Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš

Phone: +381 18 528 601 Fax: +381 18 4523 268

## PROSPECTS FOR BELATED ECONOMIC TRANSITION IN SERBIA

**Branislav Mitrović, PhD\***

***Abstract:** Economic transition in Serbia is in a great delay, compared both to the most successful transition states and to the surrounding countries. Unfinished economic transition and its former unfavorable trends are the main source of unsatisfactory macroeconomic performance. The paper points out key problems of economic transition in Serbia and affirms the need to abandon the principles of "Washington Consensus" and to formulate a national program and algorithm of transition.*

***Keywords:** economic transition, economy, privatization, institutions, national program, algorithm of transition.*

### Introduction

After the fall of the Berlin Wall in 1989 and the collapse of socialism as a system in the Soviet Union and Eastern, Central and Southeastern European countries, all the objective analyses of the time suggested that the best prospects for the transition to a market economy would have the Yugoslav economy, and within it, the Serbian economy as well. Unlike other socialist countries with highly centralized state economies, the self-management model operationalized in Yugoslavia was less centralized, while a self-managed company and its directors had considerable experience in dealing with multinational and national companies in the world market, because it was the case of exporting

---

\* University of Niš, Faculty of Economics, E-mail: [branislav.mitrovic@eknfak.ni.ac.rs](mailto:branislav.mitrovic@eknfak.ni.ac.rs)  
This paper is a part of the research project titled "Developing a Competitive Advantage of Serbian Enterprises in the Conditions of European Integration", Number 149052, financed by the Ministry of Science and Technological Development of the Republic of Serbia.

UDC 338.246.025.88(497.11), 330.342(497.11), Review paper

Received: 01.12.2010. Accepted: 09.12.2010.

domestic products and importing technology, production materials and consumer goods. Thus, the world market criteria, regardless of the high tariff protection of certain sectors of the economy, were present in tradable goods and services. However, the comparative advantage of our starting position very quickly melted due to events that occurred in connection with the breakup and after the breakup of Yugoslavia. Generated geopolitical cataclysm has made the economic transition slow and incomplete. Acceleration followed the political changes in 2000. Although it then seemed that all the prerequisites were created for economic transition to gain the strength of a shock wave, it did not happen. Among countries in transition, Serbia found itself at the very end and is regarded as a country of late transition.

Incomplete economic transition and its so far adverse results are the main reasons for extremely serious status of the Serbian economy. In Serbia, in fact, transitional effects of stagflation are still present, while the anatomy and physiology of the economy are not compatible with the EU. Maintenance of macroeconomic stability is very expensive, and industrial policies and regulations are incomplete and contradictory. [1, p. 2]. The situation in the Serbian economy is, therefore, unsatisfactory and it can not be improved by spontaneous operations of the market. The aim of this paper is to highlight the current problems in economic transition and to simultaneously develop recommendations for overcoming them.

### **1. The Outcomes of Economic Transition**

Serbia is now one of the least developed post-socialist economies. The main cause of her position is, beyond any doubt, the long-lasting, incomplete and wrongly conducted economic transition. Although the inherited conditions had offered at the transition startup the opportunity to quickly and successfully transform to a market economy, they were not used in the early nineties. A large drop in economic activity, which was not conditioned or followed by appropriate reforms, brought the economy of Serbia in such a position that it did not have many available alternatives in the period after 2000. In this respect, orientation to a fast activation of economic transition was the only possible solution, since that was the only way to secure the inflow of foreign direct investment and the adjustment of its structure to a market economy. [2, p. 371]. However, instead of defining the national program and the algorithm of transition that will be adapted to its socio-economic genotype and to the new, much worsened starting position, the creators of transition opted for the "Washington Consensus". Instead of putting the emphasis on building adequate institutional

### Prospects for Belated Economic Transition in Serbia

infrastructure that would correspond to the market economy, establishing the rule of law and creating conditions for the development of competition, the focus was on macroeconomic stabilization, liberalization and privatization, as the basic principles of the "Washington Consensus".

Macroeconomic stabilization is mostly reduced to a stable exchange rate of the dinar, namely, to the policy of overvalued dinar, which discourages exports and encourages imports. In a situation like this, export becomes unprofitable as compared to a very attractive import, which leads to increased foreign trade deficit and "choking" of domestic production. Inflation control is the ultimate achievement of the model of "strong currency in a weak economy," which has been applied in Serbia from 2001 until today. The essential drawback of this model is insufficient growth, and a particular problem is that it is not much effective in terms of price stability, too. [3, p. 81].

A radical liberalization, which was conducted immediately after 2000, has created additional problems for the domestic production, since the import tariff rate was reduced to single digits and all non-tariff restrictions were abolished. Thus, the domestic economy, ruined by previous economic sanctions, is exposed to tough competition, although even the World Trade Organization, which promotes world trade liberalism, is insisting on the gradual reduction of tariff protection, especially in cases of economies such as ours.

Macroeconomic stabilization and liberalization, as they were carried out in Serbia, led to a "choking" of domestic production and at the same time to the value reduction of domestic enterprises which, under the conditions of mass privatization, have been taken over by new owners at very low prices. Such orientation of the creators of transition has exerted substantial influence on the performances of the Serbian economy. The following table presents the indicators of the Serbian economic vitality in the period of 2005-2009.

**Table 1 Basic macroeconomic indicators in Serbia (2005-2009)**

	2005	2006	2007	2008	2009
GDP, in bill. of EUR	20.41	23.61	28.80	33.40	30.90
GDP, real growth, %	6.0	5.6	6.9	5.5	-3.0
Inflation, %	17.7	6.6	10.1	6.8	6.6
Unemployment rate	21.08	21.6	18.8	-	-
Deficit of the current account in GDP	-10.5	-14.8	-15.6	-17.1	-5.7

**Branislav Mitrović**

---

Foreign exchange reserves of NBS, in bill. of EUR	5.52	9.59	9.64	8.16	10.6
Public debt, % GDP	50.2	36.2	29.4	25.6	31.3
External debt, % GDP	64.0	63.0	60.2	64.5	74.1
RSD/EUR exchange rate, period AVG	85.5	79.0	79.98	81.44	93.96

---

Source: D. Đuričin, "Uočavanje i upravljanje rizicima u uslovima globalne ekonomske krize", "Ekonomika preduzeća", January-February, 1009, p. 6, Transition Report Update, EBRD, 2007, p. 63, "Pregled", Republic of Serbia, 2/2010, p. 39.

The table shows macroeconomic indicators realized during the period of five years. Absolute performances record slow growth, while the relative ones point out structural problems. With low GDP per capita, increased share of debt in GDP and a significant current account deficit in the balance of payments, it is evident that Serbia is not an attractive place for investment.

An important feature of economic transition in Serbia reflects in a very marked decline in economic activity, which was the most pronounced in 1993, when GDP was only about 40% of the 1989 level. The recovery has been slow, so in 2008 Serbia reached only 72% of the pre-transition level of GDP, while other countries in our close environment have long ago exceeded that level (Hungary 138%, Slovenia 156%, Croatia 111%, Romania 128%, Bulgaria 114%). Inflation rates, which indicate the level of macroeconomic stability, are significantly lower in neighboring countries as compared to Serbia. Thus, while in 2009 the annual inflation was 6.6% in Serbia, in Hungary it was 4.5%, in Slovenia 1.8%, in Croatia 2.5%, in Romania 5.3%, and in Bulgaria 2.8%. [4, p. 40]. Such an increase is more than modest, if we bear in mind the low statistical starting point in the nineties after a large decline of GDP, a large foreign exchange inflow generated by privatization and new borrowings after the lifting of economic sanctions and normalization of relations with the world. In addition, a special problem is the very structure of GDP, in the growth of which trade, transport and financial intermediation participate with about 80%. Due to their nature, the mentioned sectors can not be generators of growth, and therefore can not ensure its longevity and sustainability.

It is well known that transition has a destructive impact on the economic structure in a short period of time and that it is being implemented for long-term effects. The negative consequences of transition in the short term are: inflation, slowing down of economic growth, decline in production



### **Prospects for Belated Economic Transition in Serbia**

---

(total and especially industrial), and increased unemployment and social insecurity. However, after the transformational recession and restructuring of ownership and business, the industrial sector gets stabilized and the number of industrial workers even increases. The situation in Serbian economy is quite different and is characterized by a very slow recovery of the industry. The number of workers is significantly reduced and its performance represents a limiting factor in the export of industrial products. Due to structural imbalances, obsolete technology, high production costs and low environmental standards in a significant part of industry, primary and work- and resource-intensive products occupy a dominant place in the structure of exports. Cumulative growth of industry in Serbia in the period of 2000-2007 amounted to only 16%, which is a very little growth as compared to other transition economies (Poland 84%, Slovakia 61%, Hungary 55%, Croatia 40%). [5, p. 203]. Taking into account that the growth of industrial sector in post-socialist economies of the Eastern and Central Europe has significantly affected their GDP growth and competitiveness improvement, reindustrialization of Serbia is imposed as a high-priority objective.

The competitiveness of Serbian economy is of a relatively low level. This results in insufficient involvement in the world trade and inadequate representation in the EU market. According to the Global Competitiveness Index of the World Economic Forum for 2008, Serbia was on the 85th place among 140 countries, which is a step forward, as compared to 2007, when it occupied the 91st place. [6, p. 294]. However, in 2009 Serbia re-aggravated its position again, having assumed the 93rd place among 133 countries, which ranked it among the least competitive European countries. [7, p. 41].

Primary products and reproduction materials are dominant in the trade with EU countries. Serbia is also evidently lagging behind other countries operating in the EU market, both in terms of quality and in terms of competitiveness, due to outdated equipment and technology.

Non-competitiveness of local products and services in the world market may be observed in the level of coverage of imports by exports of more or less intensive products. Local products lack a competitive technological content, modern functions and required quality, leading to low exports and low income from the export of technology. This is the best indicator of the technological inferiority of Serbia in relation to developed countries and its dependence on foreign countries, accompanied with a negative balance of technological payments.

The achieved economic transition results indicate that the Serbian economy has not become market-oriented yet. Measured by the indicators of

the European Bank for Reconstruction and Development, it is halfway to achieving the reforms that are considered to guide it to a system similar to a modern market-oriented economy.

## **2. Key Problems of Economic Transition**

At the time of initiating the delayed economic transition, not only due to bad experiences with the "Washington Consensus", but also because of what happened in the past decade, Serbia had to define a national program and the algorithm of transition that would acknowledge all its peculiarities and significantly impaired starting position, conditioned by the sanctions and the ravages of war. Instead of formulating a strategy of social and economic development, so that the economic transition answers the purpose of implementing that strategy, the creators of transition are in favor of the "Washington Consensus". Thus, not only that the Nobel Laureate Stiglitz's view of the need to formulate a national program and the algorithm of transition was disrespected, but the "positive heuristics" of the transition in Slovenia and China were not used, as well. China was conducting economic transition with the constant depreciation of the yuan, achieving high growth rates, and has thus become the country with the largest export in the world. Slovenia is one of the most successful countries in transition, thanks to a well designed and successfully realized national program of transition.

By passing the Law on Privatization in 2001, Serbia re-started the process of economic transition. However, other necessary laws were not enacted then, while some of them have not been made even to this day. Thus, for example, the law on restitution has not yet been enacted. Without this law, potential investors cannot be confident that privatization is really wanted and that property rights will be guaranteed. The Company Law was enacted in 2004, while the Liquidation and Bankruptcy Law was passed as late as in 2005.

The results of privatization are modest and discouraging. Specifically, 1805 companies were privatized (107 by tenders and 1708 through auctions), 1336 companies were sold against installment plans, while privatization contracts were terminated in 435 companies. Revenues from privatization are also modest, amounting to 2.3 billion euros. [5, p. 199]. Poor results of the privatization have been caused by non-transparency of prescribed actions and procedures. This, undoubtedly, facilitated the rise of corruption, although the model of sales belongs to the processes of privatization by which higher corruption can be avoided. It is conditioned by the transparency of the selling procedure and its shorter duration. In the

### **Prospects for Belated Economic Transition in Serbia**

---

companies where privatization lasted for several years, there were preconditions for "spontaneous privatization", which is but a synonym for corruption.

Privatization in Serbia has been carried out under the conditions of conflict of interest. The Privatization Agency prepares enterprises for privatization, sells them and controls the selling procedure. In this way, the Agency is controlled by itself, rather than by a professional and neutral institution.

Continued privatization will be complicated by the fact that the companies remaining for privatization are unsuccessful in business operations and, therefore, not attractive for sale. In addition, a large number of companies also have other problems, such as: lack of proper documentation related to assets and liabilities, disputed ownership structure, management's desire to prolong or avoid privatization, and so on.

It is generally known that in the transition countries old institutions and rules of conduct are being replaced by the new ones. If the Serbian economy is viewed in this context, it may be stated that a satisfactory institutional quality has not yet been achieved. It is noticeable that, despite the official rhetoric, competition has not yet come to life, and also a sort of institutional vacuum can be observed that contributes to the maintenance of a non-market system with little developmental capacity. Distortion of competition is not limited only to the public sector, but also exists in the parts of transformed companies. Slow development of competitive market structures, that is, of inadequate policies that encourage competition, caused that any significant effect of the transition changes, i.e. an increase of the competitiveness of local companies aimed at their inclusion in the global market, could not be felt. All this leads to the formation of a chaotic "non-system", which substantially affects the undermining of macroeconomic stability.

Moreover, there are also estimates that the competition in Serbian economy has been reduced to very primitive market structures and that there are various market substitutes and mutant pseudo-marketing structures, which can not guarantee any greater economic efficiency. The point is that many forms of quasi-institutionalization of market relations have been established, reflecting in paternalism, monopolism, rent-oriented behavior, and so on. It is even considered that there are nomenclature-lobbying groups which tend to create "supra-institutes" and to monopolize further flows of institutional building by their extensive network of informal connections and relationships. [8, p. 390].

Thus perceived, our economy is clearly on the economically inefficient path of institutional evolution. The reasons should be sought in the existing cultural pattern that does not favor the behavior in accordance with market principles. Therefore, the existing informal institutional structure should be treated with full respect. Of particular importance is to recognize the rigidities that it produces in the transition process, but also to create those institutional arrangements through which their benefits will be maximally exploited.

A closely related issue, or rather, one aspect of institution building and improving their quality, is the further work on redefining the role of the state. The state should be strong and authoritative in order to ensure operation of institutions, primarily the free market, but it must be completely dissociated from interventions in the economy, especially from giving subsidies to companies, regardless of political pressures or their own political motives. The state should turn to rendering the services that are of importance for the functioning of markets, such as the effectiveness of laws, infrastructure, security of property rights, transparency of tax and regulatory structures, as well as macroeconomic stability.

Finally, it seems that it is necessary to spotlight the existence of some operational measures by which the state should influence the evolution of existing institutions and the creation of a market mentality of economic protagonists. This may be permanent activities aimed at a better and more complete protection of property rights, creation of an environment that would be stimulating for entrepreneurship and alleviation of conditions for the emergence of new, especially small and medium-size enterprises.

### **Conclusion**

Serbian economy has been, and still is, a suitable place for the implementation of economic transition. In practice, it was not carried out in a desirable manner, nor was it accompanied by a national program and algorithm of transition and, also, it was not conducted so as to respect the economically logical sequence of its major phases. In this respect, it may be concluded that the economy of Serbia is belated and that further delay in its institutional development and enterprise restructuring, including the public sector, could lead to its more unfavorable positioning as compared to the current situation. Our opinion is that the definition of a national program and the algorithm of transition, which would consider all the specificities of Serbia as a country and its economy, would be the right answer to the problems that Serbia is facing today. The experiences of China and Slovenia can represent an instructive example in this regard.

## Prospects for Belated Economic Transition in Serbia

---

### References

1. Đuričin D., Izlaz iz tranzicionizma, Ekonomika preduzeća, January-February, 2008.
2. Cerović B., Napredak u tranziciji, inicijalni uslovi i privreda Srbije, Teme, 2/2009.
3. Đuričin D., Uočavanje i upravljanje rizicima u uslovima globalne ekonomske krize, Ekonomika preduzeća, January-February, 2009.
4. EBRD, Transition Report, Update, EBRD, 2009.
5. Maksimović Lj., Jačanje konkurentnosti privrede Srbije u uslovima tranzicije, Ekonomsko-finansijski odnosi Srbije sa inostranstvom - nužnost nove strategije, Faculty of Economics, Belgrade, 2009.
6. World Economic Forum, The Global Competitiveness Report, 2008-2009, Geneva, 2008.
7. Pregled, Republic of Serbia, 2/2010.
8. Mitrović B., Stefanović Z., Institucionalna evolucija kao faktor tranzicije postsocijalističkih privreda, Institucionalne promene kao determinanta privrednog razvoja Srbije, Faculty of Economics, Kragujevac, 2005.

### PERSPEKTIVE ZAKASNELE EKONOMSKE TRANZICIJE U SRBIJI

**Rezime:** Ekonomska tranzicija u Srbiji je u velikom zakašnjenju, kako u odnosu na najuspešnije zemlje u tranziciji, tako i u odnosu na zemlje u okruženju. Nezavršena ekonomska tranzicija i njeni dosadašnji nepovoljni tokovi glavni su razlog loših performansi privrede. U radu se ukazuje na ključne probleme tranzicije privrede Srbije i afirmiše stanovište o potrebi napuštanja postulata "Vašingtonskog konsenzusa" i formulisanja nacionalnog programa i algoritma tranzicije.

**Ključne reči:** ekonomska tranzicija, privreda, privatizacija, institucije, nacionalni program, algoritam tranzicije





UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"

Year XLVIII, N° 4, 2010, p. 615 - 629

Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš

Phone: +381 18 528 601 Fax: +381 18 4523 268

## CULTURAL ADJUSTMENT TRAINING OF EMPLOYEES FOR WORKING ABROAD

**Biljana Đorđević, PhD\***

**Abstract:** *Performing work assignments in the foreign work environment is a very complex task since it is usually realized in different cultural, political, economical and legal ambience in contrast to the parent country. Employees are required to pass through the period of adaptation to the new environment. The biggest challenge to that process is employees` cultural adjustment, i.e. accepting the norms and behavior rules which are dominant in the new environment. If that process is unsuccessful, it could cause the expatriates` premature return to the parent country or their unsatisfactory performance. The aim of this paper is to emphasize the complexity of that process. In addition, the factors which influence the effectiveness of adjustment process will be analyzed. Finally, concrete training methods for employees` effective cross-cultural adjustment will also be presented.*

**Keywords:** *cultural adjustment, employees, models, factors, training.*

### Introduction

One of the basic characteristics of today's business environment is a high level of globalization. This fact urges organizations to send some of their employees to accomplish work assignments outside the parent company and parent country. This type of an assignment is a very complex one, since it is usually realized in different cultural, political, economic and legal ambience. That is why almost all the employees who have international assignments have to pass through the period of adjustment to the new environment. The literature dealing with this issue usual designates employees who have the international assignments as *expatriates*, and the

---

\* University of Niš, The Faculty of Economics, E-mail: biljana.djordjevic@eknfak.ni.ac.rs  
UDK 314.745.3-054.7, 005.96, Review paper  
Received: 19.11.2010. Accepted: 09.12.2010.

whole process which refers to their leaving and staying abroad – *expatriation*.

Research from this field has showed that the biggest challenge in this process refers to the employees' cultural adjustment, i.e. accepting the norms and behavior rules which are dominant in the new environment. In the literature this process is known as *cross-cultural adjustment*. Many studies have showed that difficulties in this process or difficulties in the adjustment of employee's family, if it goes abroad too, could cause the expatriates' premature return to the parent country [1, p.109], or their unsatisfactory performances [2, p. 109]. In both cases, high and unnecessary costs for organizations emerge. According to some studies, these costs could be one million dollars per an expatriate [3, p. 38].

As the cultural adaptation emerged as a specific problem in the process of employees' adjusting to the foreign environment, employees' *preparation* for facing different cultural values and requirements of the new environment emerged as an important activity within international human resource management. Accordingly, the sector for human resource management is expected to provide training programs, which will provide employees to successfully face with all challenges which working abroad brings. The training programs could be realized by the specialists from the human resource sector, but also by the specialized institutions.

The purpose of the paper is first to show the complexity of employees' cultural adjustment process to the foreign environment, then, to emphasize the importance of preparation for their successful adjustment, and finally to present specific training methods which will be used for that purpose.

### **1. Content of the Cultural Adjustment Process Concerning Employees Who Perform Working Assignments Abroad**

Cultural adjustment of employees who perform work activities abroad refers to the adaptation to the work and life in a foreign culture [4, p. 39] Cultural adjustment could be seen as dual: as a process and as a state. If the cultural adjustment is seen as a process, the term implies the process of acculturation of the individual during which the convergence of his/her behavior, value, norms and assumptions towards what is dominant in the new environment takes place [5, p. 160].

Cultural adjustment has recently been seen as the interrelated process of two different, but interrelated forms of adjusting. Those forms are: psychological and socio-cultural adjustment [6, p. 170]. Psychological



### **Cultural Adjustment Training of Employees for Working Abroad**

adjustment refers to employees' attitudes towards solving problems which they meet in the process of adjusting. Socio-cultural adjustment refers to employees' social behavior and valorizes their intercultural competencies [6, p. 170].

According to the referent literature, it can be concluded that during the time some changes in understanding the adjustment's content occurred. At the beginning of investigation of employees' adjustment process, this phenomenon has been considered as one-dimensional, that is, it has been considered integrally. Recently, cultural adjustment has begun to be considered as multilayered, since it is proposed that it includes several different dimensions of adjusting. Those dimensions are: *work adjustment*, *interaction adjustment* and *general adjustment* [4, p. 39].

*Work adjustment* refers to employee's adjustment to the new work assignments and roles which he/she gets in the new work environment. During this process, the employees get the knowledge about the performance standards and other expectation that are assigned to them. It was found that if the similarity between the procedures and work roles between the parent company and their subsidiaries was higher, work adjustment was much easier, and on the contrary. *Interaction adjustment* refers to the employees' adjustment in their everyday interactions with the persons from the host country, both from the work environment, and from the non-work environment. It is assumed that this type of adjustment is the most complex one. The third aspect of cultural adjustment is *general adjustment* which assumes the overall adaptation to the way of living in a foreign country.

**Table 1                      Variables to which the employees should adjust**

<b>Macro-environmental variables</b>	<b>Micro-environmental variables</b>
Culture Business practices Political system Health and medical system Level of socio-economic development Climate patterns	<b>Work</b> Objectives which should be realized The required level of performances Relationship with the supervisors/co-workers Relationship with the mentor or coach  <b>Private life</b> Friends Social networks, Shopping Opening hours of institutions, shops, etc.

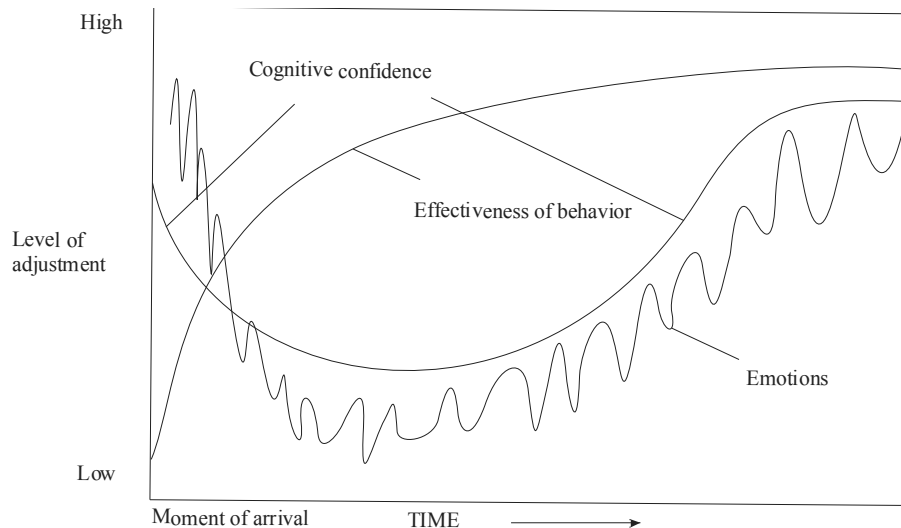
Source: Haslberger, A., "Expatriate adjustment", International Human Resource Management – A European perspective, ed. Dickmann, M., Brewster, Ch., Sparrow, P., Routledge, New York, 2008, p. 135.

## 2. Models of Employees' Cultural Adjustment to the Foreign Work Environment

In the literature, numerous models which deal with employees' cultural adjustment to the foreign work environment could be identified. The most relevant among them are: *the "U" model, the anxiety/uncertainty management, the transition model and the stress-adaptation-growth mode* [7, pp. 539-540].

The "*U*" curve model was created first. This model is based on the study which was conducted by *Lsygaard* in 1955 among the Norwegians who spent some time in the USA. Within this study, all persons were divided into three groups: those who stayed in the US up to six months, those who stayed between six and eighteen months, and those who stayed more than eighteen months. *Lsygaard* concluded that the persons who stayed abroad between six and eighteen months experienced the most difficulties in the adjustment process. These persons, after the period of excitement and enthusiasm of being abroad, felt isolated and depressive [5, p. 161]. This critical period of their adjustment was later proclaimed as the phase of the "*culture shock*" (*Figure 1*) and under this name has become accepted in the literature which deals with this issue.

**Figure 1: Adjustment curve including "culture shock"**

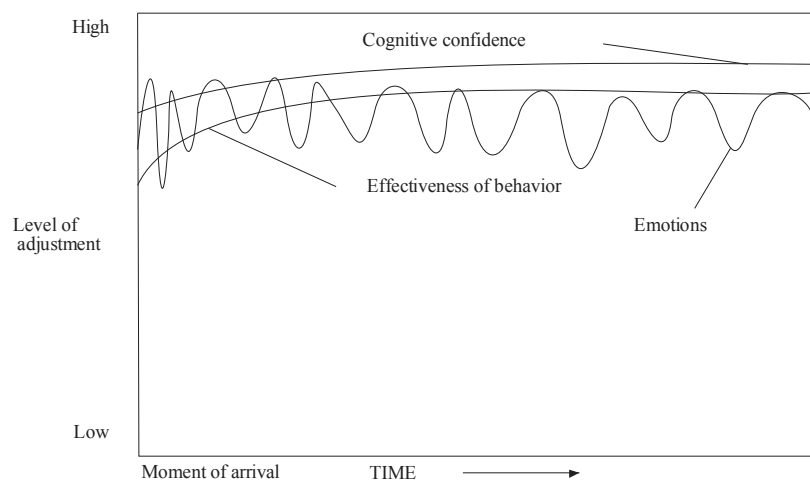


Source: Haslberger A., „Expatriate adjustment“, *International Human Resource Management – A European perspective*, ed.: Dickmann M., Brewster C., Sparrow P., Rutledge, New York, 2008, p. 138.

## Cultural Adjustment Training of Employees for Working Abroad

However, some authors warn that as people have different personalities, i.e. different cognitive schemas and different psychological profiles, it is important to note that it is not necessarily for all of them to pass through the process of adjustment which includes the “*culture shock*” [8, p. 139]. Accordingly, Figure 2 shows how the process of an employee’s adjustment which does not include the “*culture shock*” looks like.

**Figure 2 Adjustment curve which does not include “*culture shock*”**

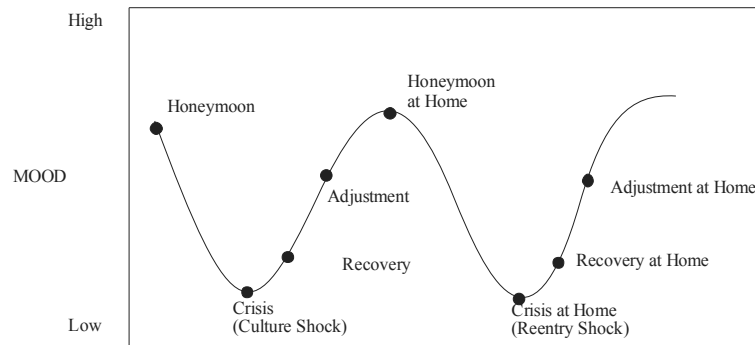


Source: Haslberger A., „Expatriate adjustment“, International Human Resource Management – A European perspective, ed.: Dickmann M., Brewster C., Sparrow P., Rutledge, New York, 2008, p.139.

Despite the fact that some authors argue that this model has many shortcomings, for example, that it simplifies the adjusting process too much as well as that it does not allow the existence of unique individual experiences, this model, in the opinion of the majority of authors, provides the adequate starting point for understanding the emotions which expatriates experience during their stay overseas.

This model was lately expanded, and new one emerged – the “*W*” curve model [9]. This former model includes one type of cultural shock more. That is “*reverse culture shock*” (Figure 3). This type of shock employees experience after they return to the parent company, for at least two reasons: if the company’s culture has been changed significantly so they do not fit well in the new cultural milieu, or if the opportunities for their career development within that organization are insecure or unclear [10, p. 103].

Figure 3: “Reverse culture shock”



Source: based on Gullahorn J.T., Gullahorn J. E., An extension of the U-curve hypothesis, *Journal of Social Issues*, 1963, 9 (3), from the site [www.soros.org/initiatives/scholarship/huts-bolts](http://www.soros.org/initiatives/scholarship/huts-bolts)

Although there are some similarities between the “culture shock” and “reverse culture shock”, because in both cases, employees experience the shock, there are some differences, as well. The basic one considers employees’ *expectations* [11 p. 86]. Namely, when employees have been given international assignment, they mostly expect that some cultural differences between their parent country and company, and culture which dominate in the new environment, exist. That expectation crates readiness for facing new cultural values and behavioral norms, and somewhat smooth the effects of the “culture shock”. On the other side, when employees return to their parent company, they usually do not expect any changes in their work environment. Therefore, the consequences of facing with new cultural values could be very dramatic. If employees, after they return to the parent company, cannot adjust themselves to the new cultural milieu, they very often leave the company.

*The anxiety/uncertainty management model* is based on the attitude that employees have problems in their adjustment to the new environment since they feel lack of control [12, p. 277]. Therefore, since they cannot predict or explain the behavior of the members of the host country, they consequently become anxious. This model suggests that the employees, in order to adapt and reduce the level of insecurity have to collect information about the host country as much as possible as well as to manage their process of adaptation. *Sobre-Denton* and *Hart* note that the positive side of this model is that it emphasizes that insecurity and anxiety are necessary for the successful adaptation. They emphasize the fact, similarly as *Adler*, that the “*culture shock*” should not be conceptualized as a problem, but rather as

### **Cultural Adjustment Training of Employees for Working Abroad**

---

a necessary step towards gaining intercultural competencies. *Adler*, in fact, does not see the “*culture shock*” only in negative terms, but rather as a form of learning, that is, getting the experience [13, p. 29].

*The transition model* of the cultural adaptation promotes the idea that cultural adaptation is the natural process which is immanent to human nature [14, p. 215]. However, the degree of its successfulness depends heavily on their psychological attributes. This model’s characteristic is also promoting the idea that individuals in the process of cultural adaptation have different experiences and reactions, and therefore, do not have to pass through the same phases. Therefore, in the attempt to provide the successful adaptation, this model suggests that for every individual the specific training program should be created. On the other side, this suggestion could be seen as the limitation of this model since the personalized training programs are not suitable for simultaneous training of a larger group of trainees.

In the model *stress-adaptation-growth*, the key attitude is that the adaptation of the persons who are abroad is realized through communication and building social networks in the new environment [15, p. 554]. The precondition for this is a good knowledge of the host country’s language. This model is also specific by its attitude that the process of adaptation is not realized linearly, but rather spirally, where one passes through several phases, such as: stress, adaptation, and growth. The later phase is realized when the individual completely fits in the new environment.

Almost all previously described models of cultural adjustment, more or less, present the difficulties employees face during their stay overseas, which refers to the fact that this process is a very complex and that this kind of assignment requires adequate preparation.

### **3. Factors of Employees’ Effective Cultural Adjustment for Working Abroad**

The complexity of the process of employees’ cultural adjustment to working abroad stems from the fact that this process is influenced by numerous factors. According to *Blek*’s typology of the adjusting dimensions, those factors are summarized into three groups, such as: individual factors, job variables, i.e. organizational factors, and non-work factors [3, p. 40].

*Individual factors* which influence the effectiveness of cultural adjustment refers to each individual’s psychological attributes, their attitudes towards living and working abroad, orientation for learning, previous international experience, etc. When the psychological attributes of the individuals were analyzed it was found that tolerance to uncertainty and risks

have positive influence on the effectiveness of cultural adjustment. Also, the desire to work and live in a foreign country significantly contributes to employees adapting faster and more successfully to that environment. Further, previous international work experience of employees is also positively correlated with the effectiveness of their cultural adjustment. Finally, it was found that the employees, who have high orientation towards learning, are more open to new information and experiences, which helps them in the process of cultural adjustment [16, p. 351].

*Organizational factors* are mostly connected to the employee's work assignments. These factors are: role clarity, role discretion and role conflict [4, p. 41]. Role clarity refers to the level of security which employees perceive about what their obligations, responsibilities and required level of performances are. If there is a high level of role clarity, the level of insecurity towards work will decrease, and consequently the probability of adjusting to work will be higher.

Role discretion refers to possibility of the employees to change the content of role they have got, so the new, different content would become more appropriate. The research has confirmed that if employees have a possibility to modify their role in the new environment, that will contribute to their better adjustment. Role conflict, as the third variable which determines the effectiveness of work adjustment refers to the incompatibility of the role requirements as well as to conflict expectations which could appear towards that role. The research has confirmed that if the role conflict exists that will inhibit successful work adjustment, and consequently successful cultural adjustment as a whole.

Among the key factors from non-work environment which influence the effectiveness of cultural adjustment, the following could be identified: the level of cultural similarity between the parent and host country as well as the successfulness of an employee's family adjustment. If the cultural similarity between the parent and host country as well as between the parent company and its subsidiaries, is higher, the employees' feeling of insecurity in their interactions with the members of host country will decrease. Consequently, it will have positive influence on the overall process of their adjustment. The family's adjustment is another key factor which influences the effectiveness of the employee's cultural adjustment. The research has shown that family's inadaptability to the foreign environment is one of the key factors of the employee's premature return to the parent country [16, p. 351].

## **Cultural Adjustment Training of Employees for Working Abroad**

---

The knowledge of all the mentioned factors, which influence the employees' successful cultural adjusting is very important since it provides the base for the adequate training programs to be designed.

### **4. Methods of Employees' Cultural Training for the Purpose of International Assignments**

Taking into account the importance of employees' cultural adjustment to the foreign environment for their international assignments' successfulness, organizations which assigned its employees such tasks, and especially human resource sector, are expected to provide adequate preparation, i.e. training for that employees.

Organizing the training programs for the employees is the traditional activity of the human resource department. However, when the international assignment is on the line, there are many specificities, for several reasons [17, p. 89]:

- *Firstly*, the employees who are going abroad have to adjust not only to a new job and work role, but to a new culture as well,
- *Secondly*, before going overseas many cultural and behavioral norms could not be predicted, therefore the employees need additional help.
- *Thirdly*, if an employee's family goes overseas too, it is desirable to include them in training programs as well.
- *Fourthly*, since the employee's adjustment after they return to the parent country is often a problem, the preparation for their return is also needed.

The specificity of training of the employees who have international assignments is reflected in the fact that the final aim is not to improve their technical skills and knowledge.<sup>1</sup> The aim of employees' training is to introduce them to cultural values and specificity of the host country in order to provide their faster and easier adjustment to the new environment and to be committed to the tasks.

The theory and practice as well provide many methods for cultural training of the employees who have international assignments. All of them could be seen from many angles and classified upon many criteria. One of the employees' training programs classifications concerns whether the training methods are directed towards changing the way employees think, behave or

---

<sup>1</sup> That is not completely excluded since the content of their work the foreign country could be very similar to the previously work, but also very different, too.

feel. Accordingly, all training methods could be classified as cognitive, affective and behavioral methods [18]. *The cognitive* methods are directed to the mental processes which occurs in the consciousness of the individual and as the final aim have better knowledge and understanding of the host country culture. As a rule, these methods do not assume the active participation of the trainees. *The affective* training methods' aim is to cause emotive trainees' reactions so that the trainees can learn how to deal with critical cultural incidents which may occur in the new environment. *The behavioral* methods are focused on improving the trainee's ability to adapt to the host country's communication style as well as to establish effective relationships with the members of other cultures.

According to *Tung's* classification, there are five basic training programs for the persons who will work outside the parent country. They are: didactic training, culture assimilator training, language training, sensitivity training and field training programs [19].

The frequently cited classification of the cultural training methods is classification of conventional and experimental training methods [20]. Conventional methods are those where information is transmitted in one direction. They include lectures at faculties, lectures by consultants and other specialists. Experimental methods are those where the trainees actively participate in training by participating in real life situations, which they may face in the new environment.

One of the possible cultural training methods classification (which we are going to explain in details later) is classification according to the phases of expatriates' international assignments. These phases are: preparation for going overseas, staying overseas and preparation for returning to the parent company. We found that organizing training for employees according to this phase is very useful, since the training would be based on the natural flow of their international assignment. It will also contribute to the process of learning and adjusting to the new environment being planned and simultaneous.

During the phase of *preparation for the assignment*, the aim of the training is to provide employees with the basic language knowledge as well as to introduce cultural and behavioral norms of the host country to them. If an employee's family goes along, it would be desirable for the family to be included in the process of preparation, too. In this phase the following training methods could be implemented [21, pp. 118-121]:

- a) *Informal briefings*. This method is assumed to be the cheapest one for the employee's preparation in order to face new culture. The



### **Cultural Adjustment Training of Employees for Working Abroad**

---

person who informs the employee about the host country could be the returning expatriate or person who is from the host country. Using this method the employees could get the many useful information and knowledge.

- b) *Look-see visits*. Many multinational companies implement this method for the employees' preparation, nevertheless it is more expensive than the previous one. This method assumes that the employee and his/her family stay for a while in the country, where he/she got the assignment, in order to get knowledge of the culture, way of living, etc. Thanks to this method, employees will get the personal experience and form the personal picture about that host country. However, some authors suggest that using this method could make employees form too positive picture about the host country, since during their stay they usually meet people who are on their best behavior, stay in the best hotels, etc., but later he/she may experience a hard shock when they form a real picture of the country.
- c) *Computer based training*. This is a training method where employees train and prepare themselves alone by using different programs and information created by the organization. The positive side of this method is its low costs, after the system has been created. However, its shortcoming is that the employees are isolated in their learning and do not have the opportunity to overcome some doubts and uncertainties, either about their new role, or about the new environment.

During the phase of their *staying in the host country*, the employees training takes place in the foreign environment. Training methods which could be used in this phase are [21, pp. 119-120]:

- a) *Overlaps*. This is a training method where the employees, who are about to return to the parent company, stay for a while and convey their experience to the employees who have just arrived. Therefore, for some time there is overlapping in their stay in the host country. The positive side of this training method is that it provides new expatriates with the knowledge about the personal experience of the former expatriates, about the key clients, etc. However, the shortcoming of this method is that it is very expensive one, it is difficult to organize it and it can lead to the local staff to be confused about who is in charge.
- b) *Cultural coaching*. The purpose of cultural coaching is to help employees remove dilemmas they may face as well as to provide

better understanding of the unfamiliar cultural situations. Those information could be provided from the external personal consultants or advisers. Positive side of this method is that the advisers, to which the host country culture is familiar, could help the employees to better understand some unfamiliar situations and to provide their better adjusting to the new environment. The shortcomings of this method are connected to the possibility of providing adequate cultural advisers.

- c) *Cultural mentoring*. Cultural mentoring could provide better socialization and adjustment of employees who work abroad. Mentors could provide their protégés with the assistance in their everyday work, social support, career advices, etc. The ideal situation would be that the mentors have already faced the same challenges the expatriates face. Mentors could be senior managers of the organization, trained host-country managers or returning expatriates.

In the phase *preparation for return*, the aim of training is inhibiting appearance of the “*reverse culture shock*” as well as better fitting of the employee’s career plans with the organizational needs. In that purpose, it is very useful to organize the meetings with employees when they are still abroad. According to some assessments, such type of preparation should begin six months before final employee’s returning to the host company [16, p. 361]. At these meetings all important aspects of employees’ return should be discussed as well as precise ways in which their knowledge could be used. These forms of employees support has recently gained in the importance since the organizations concluded that eventually employees’ leaving after they return to the company causes many negative consequences, such as: lost of knowledge, experience, expertise and global way of thinking. Consequently, organizations now try by adequate preparation for their return to effectively manage the process of their reintegration.

Since there is no standard program which will be equally effective in all situations, previously described algorithm of employees’ cultural training should be considered conditionally. However, the basic principles which should be taken into account when the training program is organized are that the training methods should be chosen according to the type of the international assignment, that is, to recognize the degree of similarity between the parent and host country culture as well as the degree of interpersonal interactions between the expatriate and the members of the host country [18]. We also may add that the training programs for employees

## **Cultural Adjustment Training of Employees for Working Abroad**

---

should recognize as much as possible their personal attributes and their training preferences, since it has been found that they are very important factors for successful preparation for working abroad, too.

### **Conclusion**

Since the degree of organizations' involvement in the international business flows is higher as well as the need for sending the employees to accomplish work outside the parent organization increases, many questions from international human resource management area are actualized. A delicate challenge which the human resource sector in such organizations faces, as emphasized in this paper, refers to employees' preparation for working abroad. The aim of that preparation, i.e. training is to provide employees with more successful cultural adaptation, which is very important factor in influencing the successfulness of their international assignment. We noted that employees' cultural adjustment is a very complex process, as showed in some models analyzed in the paper. We also analyzed factors which influence the degree of effectiveness of that process. For the purpose of designing effective training programs, many methods which could be implemented for the purpose of employees' preparation have been analyzed.

### **References**

1. Kim K., Slocum J. W., "Individual differences and expatriate adjustment effectiveness: The case of U.S. based Korean expatriates", *Journal of World Business*, 43, 2008.
2. Shaffer M. A., Harrison D. A., Gregersen H., Black J. S., & Ferrandi L. A., "You can take it with you: Individual differences and expatriate efficiencies", *Journal of Applied Psychology*, 91, 2006.
3. Pathle J., "The relative importance of antecedents to cross-cultural adjustment: implication for managing a global workforce", *International Journal of Intercultural Relations*, 28, 2004.
4. Black J. S., "Locus of control, social support, stress, and adjustment in international affairs", *Asia Pacific Journal of Management*, 7, 1990, cit. in Pathle J., "The relative importance of antecedents to cross-cultural adjustment: implication for managing a global workforce", *International Journal of Intercultural Relations*, 28, 2004.
5. Haslberger A., "The complexities of expatriate adaptation", *Human Resource Management Review*, 15, 2005.
6. Selmer J., "Coping and adjustment of Western expatriate managers in Hong Kong", *Scandinavian Journal of Management*, 17, 2001.
7. Sobre-Denton M., Hart D., "Mind the gap: Application-based analysis of cultural adjustment models", *International Journal of Intercultural Relations*, 32, 2008.
8. Haslberger A., "Expatriate adjustment", *International Human Resource Management – A European perspective*, ed. Dickmann M., Brewster C., Sparrow P., Rutledge, New York, 2008.

9. Gullahorn J. T., Gullahorn J. E., "An extension of the U-curve hypotheses", *Journal of Social Issues*, 19 (3), 1963, cit. in Gaw F. K., "Reverse culture shock in students returning from overseas", *International Journal of Intercultural Relations*, 24, 2000.
10. Ivanchevic M. J., *Human Resource Management*, McGraw - Hill, International Edition, New York, 2010.
11. Gaw F. K., "Reverse culture shock in students returning from overseas", *International Journal of Intercultural Relations*, 24, 2000.
12. Gudykunst W. B., "Applying anxiety/uncertainty management (AUM) theory to intercultural adjustment training", *International Journal of Intercultural Relations*, 22 (2), 1998. cit. in Sobre-Denton M., Hart D., "Mind the gap: Application-based analysis of cultural adjustment models", *International Journal of Intercultural Relations*, 32, 2008.
13. Adler P. S., "The transitional experience: An alternative view of culture shock", *Journal of Humanistic Psychology*, 15, 1975, cit. in Haslberger A., "The complexities of expatriate adaptation", *Human Resource Management Review*, 15, 2005.
14. Bennett J. M., (ed.), *Basic concepts of intercultural communication, Selected readings*, Yarmouth, Maine, Intercultural Press, 1998, cit. in Sobre-Denton M., Hart D., "Mind the gap: Application-based analysis of cultural adjustment models", *International Journal of Intercultural Relations*, 32, 2008.
15. Kim Y.Y., "Inquiry of intercultural and development communication", *Journal of Communications*, 55(3), 2005.
16. Desler G., *Osnovi menadžmenta ljudskih resursa*, Data Status, Beograd, 2007.
17. Collings G. D., Scullion H., „Resourcing international assignees“, in *International Human Resource Management – A European perspective*, ed.: Dickmann M., Brewster C., Sparrow P., Rutledge, 2008.
18. Brislin R. W., "Orientation programs for cross-cultural preparations", 1979, cit. in Okpara O. J., Kabongo D. J., "Cross-cultural training and expatriate adjustment: A study of Western expatriates in Nigeria", *Journal of World Business*, doi: 10.1016/j.jwb.2010.05.014, 2010.
19. Tung R. L., „Selection and training of personnel for overseas assignments“, *Columbia Journal of World Business*, 16 (1), 1981, cit. in Okpara O. J., Kabongo D. J., "Cross-cultural training and expatriate adjustment: A study of Western expatriates in Nigeria", *Journal of World Business*, doi: 10.1016/j.jwb.2010.05.014, 2010.
20. Gertsen M., "Intercultural competencies and expatriates", *Human Resource Management*, 1 (3) 1990, cit. in Okpara O. J., Kabongo D. J., "Cross-cultural training and expatriate adjustment: A study of Western expatriates in Nigeria", *Journal of World Business*, doi: 10.1016/j.jwb.2010.05.014, 2010.
21. Ehnert I., Brewster C., "An integrative framework for expatriate preparation and training", in *International Human Resource Management – A European perspective*, ed.: Dickmann M., Brewster C., Sparrow P., Rutledge, 2008.

**OBUKA U FUNKCIJI KULTUROLOŠKOG PRILAGOĐAVANJA  
ZAPOSLENIH RADU U INOSTRANSTVU**

**Rezime:** Obavljanje radnih zadataka u inostranom radnom okruženju je veoma kompleksno, jer se najčešće realizuje u drugačijem kulturnom, političkom, ekonomskom i pravnom ambijentu u odnosu na matičnu zemlju. To zahteva od zaposlenih da prođu kroz svojevrsni period prilagođavanja na novu sredinu. Najveći izazov u tom procesu vezan je za prihvatanje normi i pravila ponašanja koja su opšteprihvaćena u novoj sredini. Eventualni neuspeh u tom procesu može da dovede ili do preranog povratka zaposlenog u matičnu kompaniju ili do njegovog nezadovoljavajućeg učinka. Cilj ovog rada je da ukaže, najpre, na kompleksnost tog procesa. Potom će biti analizirani faktori koji utiču na njegovu efektivnost. Konačno, biće prezentirani i konkretni metodi obuke koji su u funkciji uspešnog prilagođavanja zaposlenih inostranom radnom okruženju.

**Ključne reči:** kulturološko prilagođavanje, zaposleni, modeli, faktori, obuka.





UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"

Year XLVIII, N° 4, 2010, p. 631 - 642

Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš

Phone: +381 18 528 601 Fax: +381 18 4523 268

## BEHAVIORAL FINANCE AND FINANCIAL MANAGEMENT

**Sanja Vučković, PhD\***

**Abstract:** *Traditional financial theory is based on normative decision-making and unrealistic assumptions about the behavior of financial managers and financial market participants. Behavioral finance, based on the analysis of the impact of psychological factors on the decisioning, gives a great contribution to the analysis of financial theory and practice. Decisions on financial structure of enterprises, investment and dividends should be considered in light of various rational and irrational incentives that financial managers are facing.*

**Keywords:** *behavioral finance, financial management, financing, investing, dividend policy, psychology*

### 1. Introduction

The goal of every economic theory is to give simplistic, but realistic, picture of an important phenomenon in practice. If theoretical implications do not fit the actual events, then the theory loses credibility, and attempts emerge to analyze the economic mechanisms from a different angle. Financial theory in the second half of the 20<sup>th</sup> century was marked by a breakthrough of mathematical and statistical tools that have brought a revolution in the understanding and analysis of the phenomenon in the financial market. In order to the describe complex market mechanisms through mathematical relations, it is necessary to introduce more restrictive assumptions. The standard assumption in such analysis is that all market participants are rational. This means that each individual is guided by the principles of normative decision-making: he/she is logically consistent, he/she knows the rules of probability and make decisions upon them, always giving priority to personal interests, processes information the same way as

---

\* Faculty for Business Studies, Megatrend University Belgrade,

E-mail: svuckovic@megatrend.edu.rs

UDK 005.915, Review paper

Received: 17.04.2010. Accepted: 09.12.2010.

everyone else, reason is the only important for decision-making, and emotional and psychological factors have no influence.

The crown of financial theory in which rational behavior plays a key role is the hypothesis of market efficiency. According to this hypothesis, the economic subjects quickly and accurately process new information, in accordance with its objective importance. After this, taking action is in accordance with the criterion of maximizing utility. Consequences of presumed market efficiency are many: financial asset prices always reflect fundamental value, price behavior is impossible to predict (because they move on the principle of random walk), there is no possibility to anticipate future and earn excess return.

However, reality is different in many aspects and financial theory based on rational actors is under heavy critique. The paradigm of this struggle is the testing of hypothesis of market efficiency. One group of research builds on the fact that not all information are equally available to all investors, which delivers information asymmetry to the market. A new approach, called behavioral finance, in the last twenty years incorporates various psychological factors of decision-making. Behavioral finance is part of all aspects of financial decision-making, whether it is done in the market or in the company. It is therefore important to study the characteristics of this modern concept.

Behavioral finance is based on cognitive psychology. It goes beyond average values of economic phenomena and understanding of various phenomena is derived from the detailed description of the behavior of subjects. Investor psychology is an indispensable element in this approach. The key question is how the people in the financial markets form the attitudes and expectations, and on which incentives they take action. New financial theory offers an explanation for many economic phenomena.

## **2. Significance of Psychology for Financial Decision-Making**

Traditionally, it is considered that, in deciding under uncertainty, people form opinion in accordance with the law of probability and only that matters is maximization of personal interest. However, in addition to this conclusion (which is called reasoning), one can not deny the importance of intuition. Intuitive reasoning and decision-making occurs spontaneously, without extensive considerations, calculations, and usually without any special effort. However, intuition should not be linked with the thoughtless and lazy people. Research has shown that it is present among the intelligent



## **Behavioral Finance and Financial Management**

---

and reasonable people, professionals and individuals who know how to use the mathematical tools in decision-making.

Scientific disciplines that study human behavior (medicine, psychology, sociology and anthropology) can, therefore, help a lot in the study of descriptive decision-making process.

A significant breakthrough of psychology in the economy happened in the sixties and seventies of the 20<sup>th</sup> century, when Daniel Kahneman and Amos Tversky conducted various experiments in order to check the descriptive character of the rational behavior of people. These authors pointed out many heuristics and preferences in human behavior and their work soon became the backbone of decision theory. Economists quickly accepted the idea of Kahneman and Tversky, and on the basis of their analysis in the last twenty years a new field of finance theory developed – behavioral finance.<sup>1</sup> Behavioral finance shows the importance of psychological factors for the behavior of individuals who make financial decisions (whether in the financial markets or in the company).

### **3. Financial and Investment Decisions of Companies**

One of the assumptions on which the famous and influential Modigliani-Miller theorem of capital structure was built is the efficiency of the market. The direct result of their analysis is that the financial policy (the ratio of debt-to-equity) is irrelevant for the value of enterprises, and another implication is the irrelevance timing of equity issuance. However, if the investors are irrational, then even rational financial managers in the company will matter when new shares are issued. Because they know that the market values shares differently from their fundamental value, rational managers do consider the moment and the share of equity in total capital: when shares are undervalued, they will avoid new issuance and will increase debt, while when stock prices are high new shares issuance will be attractive.

The hypothesis of capital adjustment according to the market has been proven in various studies, from which we can systemize several conclusions. First, companies are opting for the equity market when the stock price is high (in comparison to the accounting value and compared with earlier market value) and repurchase shares when their price is low. Second, analysis of long-term series shows that the timing tactics of capital is successful: one year after the issue, equity returns are typically low, which means that the decision to change the capital structure were made

---

<sup>1</sup> Kahneman received the Nobel Prize for Economic Science in 2002 (Tversky died in 1996).

at the right time - when stock prices were high, after which their decrease followed. In this way, it was shown that the periods of above average equity share in total capital are good predictor of future returns: in the years following the expansion of public offerings low and sometimes negative returns followed. For example, during the period of seventy years in the U.S. financial market (1926-1990) an average share of equity in external financing was 21%. After years in which the share of equity was low (less than 14%) a return on market index (value weighted) of 14% was recorded. When the public offerings were propulsive (over 27% of new issues), then the next year the average return amounted to -6% [3]. On the New York Stock Exchange it was found that in the period from 1926 to 1962 average stock return in the year prior to listing is 23%, and in the year after listing 6% [9]. Third, in anonymous surveys financial managers say that in practice they consider the time and manner of raising the capital, depending on the situation in the financial markets. According to a comprehensive survey, in determining sources of funding as many as two thirds of managers have in mind overvaluation or undervaluation of stocks and so many are of the same opinion that if the stock price rose, then it could be sold favourably [7].

Evidence that the company issue equity according to the market sentiment have led to new attempts to clarify confusion over the company's capital structure. New efforts proceed from the fact that capital structure reflects the cumulative financial decisions at a particular time. In other words, if the company is systematically adjusting to the market, then the capital structure will be permanently determined by the attitude of the market. Therefore, there is no optimal capital structure, but the current ratio of equity-to-borrowed funds is determined by the company's market value in the previous period. Thus, if the two companies are approximately equal in everything (size, profitability, market and book value), except in relation to the market-to-book ratio in the past, then it can be assumed that the companies with high ratios will have greater share of equity in total capital (since it issued shares in the periods when the market was overvaluing the company). This hypothesis was confirmed by Baker and Würzler, who showed that the financial leverage was strongly negatively correlated with the market value of companies: companies with high share of debt were demanding external funds when market value of companies was low and, conversely, companies with low leverage were looking for external resources in times of high market value of the company [1].

Effects of fluctuations in market value on capital structure extend for a period longer than 10 years, so, for example, the financial structure in 2010

## **Behavioral Finance and Financial Management**

---

will depend on the company's market-to-book ratio (ie, on financial decisions) in the twentieth century.

Another question is whether the importance of markets for the capital structure has an impact on company's investment decisions. In other words, whether the financial revaluation, caused by oscillation of the market value of the company, leads to adjustment in investment? In general, when stock prices are high, the company issues more equity, but this fact should not affect investment - rational managers know that there investment opportunities are attractive only in the eyes of optimistic irrational investors, and that, realistically, net present value of projects is not positive. Raised funds, therefore, should not be invested but retained. When shares are, on the other hand, undervalued, it is rational to redeem the shares, without reducing investments [15]. However, this analysis is founded only in the case of companies that have enough of their own (internal) sources and a strong capacity to borrow, ie. for companies whose financing is not dependent on the equity (non-equity dependent firms). If not, then the attitudes of investors have a strong impact on the company's investment: when they are pessimistic and shares undervalued, then the company will miss a favorable investment opportunities – it will be too expensive to finance projects by selling cheap shares. Therefore, we can hypothesize: investment of equity dependent firms will be more sensitive to non-fundamental fluctuations of stock prices than is the case for other companies.

Attitudes of too optimistically-inclined investors may also affect the company's investment. Although the manager is interested in maximizing the value of the company, it will often be forced to accept projects for which investors believe are profitable (which is why, after all, they evaluate the company more than they should), even though they are not. Otherwise, if manager rejects the project, there is a danger that the optimism of investors will go down, stock prices fall, competitors take over the company, and he would be fired. Thus, companies whose market value exceeds the fundamental value have an incentive to invest more than they reasonably should.

Empirical research, therefore, should determine whether investors' attitudes have an impact on investment of companies whose shares are traded on stock exchanges. In a recent study, the three hypotheses are confirmed: companies that are dependent on external financing<sup>2</sup> (a fifth of the companies with the highest dependency) have three times greater

---

<sup>2</sup> Companies can be considered dependent on the equity if they have low cash flow, low debt capacity and significant development opportunities.

fluctuations in the volume of investment compared to companies which do not depend on the equity issuance, the investment of subsidiary companies are more sensitive to the expected future returns, and subsidiary companies issue more shares when market prices are at a higher level and fewer shares when they expect higher future returns (ie, that the price will increase) [2]. It can be, however, expected that the attitudes of investors affect even investment of companies that do not rely on financing through shares. Chirinko analyzes differences in investment between glamour companies and value companies; since value shares have higher returns, it is clear that the value of the glamour companies is overvalued. The results are as expected: unrealistically valued glamour companies invest significantly more than value companies [6]. Similar results find Polk and Sapienza, who, however, emphasize that the main channel does not come from dependency on equity financing [12]. In fact, as it is said, when the company is overvalued, then rational investors can invest in a project with negative net present value even when the source of funding is not equity. Trying to find the best possible approximation for companies with unrealistically high value, the authors distinguish those that have a significant difference between accounting profit and the actual inflow of cash, which in the past five years had a positive net emissions of stocks and whose stock prices expressed inertia. And their results confirm the hypothesis that companies with unrealistically high market value are inclined to excessive investment.

#### **4. Policy Dividend**

When we come to dividends paid by the companies, two questions remain without answer: why do companies pay dividends to shareholders and how they determine the amount of dividends. Shefrin and Statman offered several psychological explanations for the dividend preference [14]. The first is based on self-control that people exhibit. To control yourself and spend less money (that would come in case of sale of shares and the current higher income), shareholders limit their expenditures to the amount of a smaller dividend. Second, dividends allow avoiding of potential regrets. When, namely, the company does not pay a dividend and shareholder sells shares to finance consumption, an increase in stock prices may follow later. Owners who sold shares would then regret, because they made a mistake and gave away shares whose price subsequently rose; if the dividend had been paid, they would have not done so. Better, then, is paying dividends in time to prevent the sale of shares and possible regret.

When the amount to be taken from the profits to pay dividends is in question, the surveys among the managers show that companies want to

## **Behavioral Finance and Financial Management**

---

maintain fair treatment of shareholders, which means that the share of dividends in profit is stable and that the absolute amount paid does not fluctuate much from year to year. Thus, when there is an increase in corporate income, dividends will grow only when executives are confident that they will not have to drop significantly in the near future [5].

Different attitudes of investors towards companies that pay and do not pay dividends are also important. Investors perceive the two different types of companies and classify them into different categories. Therefore, the demand for shares may vary over time, depending on what companies are attractive, those that pay or those that do not pay dividends. For example, investors with high and rising risk aversion prefer companies that pay dividends, while in periods of growth and stability more interesting become companies which reinvest profits (and do not pay dividends). Sensing a change in attitudes and demand of investors, financial managers, in order to boost stock prices, adjust dividend policy: they pay larger amounts when investors in the market wish so or reduce dividends when it is more appropriate for investors. Thus, irrational investors in the market will have a decisive impact on the dividend policy of companies. Very popular in behavioral finance, the catering theory of dividends is actually based on meeting the preferences of investors (and not the shareholders or management) [4]. To test the theory, Baker and Würzler firstly divided companies to those that pay and those that do not pay dividends, and then calculate the average ratios between market and book value of enterprises in both groups. Finally, they deducted market-to-book value ratio of the second group from the same ratio in first group of companies. When they compared the calculated differences and trends in the payment of dividends over time they got an interesting result: a high difference in one year indicates that in the next year a larger number of companies from second group, as well as newly established companies, will pay dividends [4]. So, simply put, the rise in stock price and in market value of companies that pay dividends encourages other companies to follow the market and do the same.

### **5. Irrationality of Financial Managers**

In the previous analysis of the impact of psychological factors on business finance, the influence of irrational investors on the decision-making of rational financial managers has been shown. However, people who make financial decisions in the company are subject to a variety of psychological influences as well. In modern companies numerous ways to solve potential problems and to motivate the manager to work for the benefit of the company and shareholders have been developed. The problem, however, can

occur because managers often believe that they maximize the value of the company, although, subject to psychological traps, they do not. They unknowingly take actions that harm the company. Having in mind that the companies, through the corporate culture, often formally and informally encourage competition among employees, it is clear that psychological elements in decision-making can overcome rational reasoning.

In one of the first analysis in this field, the activities of mergers and acquisitions in a specific way have been alighted [13]. Although certain analyses document both successes and failures of mergers and acquisitions, the general conclusion in the financial profession is that there is no convincing evidence of the benefits (increased value) for the involved companies. In addition, more often shareholders of targeted companies are those who benefit, not the owners of the company that initiated the integration (ie the buyer) [see, for example, 16]. This means that a lot is payed for a targeted company and that the premium paid over market price reflects factors other than the fundamental value. The explanation lies in the attitude of managers towards the target company. When managers consider the purchase of another company, the offer price includes future effect to be achieved by the synergy between two companies. If managers are overwhelmed with the new idea and overconfident in the accuracy of their analysis, they (too soon) make offer at the moment when the market value of target companies is below the value managers have in mind. This feature is especially present at the time of large number of acquisitions (as is the case in the last twenty years), when managers, threatened by competition and giants in market, carelessly and too fast enter the integration processes. In essence, as over-confidence leads to excessive trading in securities, so self-confident managers will lead to excessive activities of takeovers and mergers. The effects of these activities will be insignificant or even negative, because it will very quickly be seen that managers overestimated their ability to successfully forecast the results of future projects.

Great CFO optimism has a decisive influence on financing and investment decisions. Two impacts are associated with free cash flow, that is resources that are not already set apart and reserved for projects with positive net present value [8]. First, optimistic managers attach greater probability to good outcomes and less probability to bad outcomes for certain investments, and think that investors do not appreciate future performance and, consequently, the value of the company in a proper way. Since they consider that the market is unreasonably too reserved to the company, managers will avoid external financing - in this situation, shares would, from their point of view, sell at low price, and borrowing (taking a

## **Behavioral Finance and Financial Management**

---

loan or selling bonds) would be expensive. This will cause the consequences foreseen by the well-known pecking order theory of capital structure: in financing new projects company will use internal funds (accumulated earnings and free cash flow), and external funds only if it is badly needed. When using external resources they will prefer debt, since shares are riskier and therefore more prone to undervaluation. Second, the optimism of the investors creates expectations that the rate of return and future cash flows will be extremely large. Therefore, the available money will be invested in the project, although its net present value is small or negative. If the company had not had available funds, it would have hesitated to borrow money, because it had been unwilling to rely on external sources. From the perspective of a company, a good opportunity would have been missed, but, objectively, only a bad investment had been avoided. It appears that with overoptimistic investors sometimes it is good that there are no internal resources reserved for investment. Free cash flow can be harmful! This does not mean that good decisions are made with the lack of available funds. Then, managers reject the project with a positive and favorable net present value, just because they are too optimistic and proud to obtain external funding.

Described impact of optimism of the financial manager on finance and investment derives some interesting implications.<sup>3</sup> One is that we should expect a high correlation between investment and cash flow: when the cash flow is low, managers refuse to issue shares or bonds, and a large number of projects would be missed and investment remain low; greater financial resources, on the other hand, allow demonstration of excessive optimism and will result in above average investment activity. The above hypothesis was confirmed in practice [10]. Since the manager's optimism is impossible to measure directly, as an approximation is used often practice of developed economies - the possibility for managers to use options to purchase shares (of their own) companies. Options are used to achieve two objectives: first, they are a common way of rewarding directors and second, they link management performance to earnings of the company (so potential conflicts of interest of managers and shareholders are avoided). Holding the options is a good indicator of the manager's optimism regarding the future results and the price of company shares. If managers are constantly late with exercising the options (compared to the standard set by normative principles of decision-making), then they believe that the future stock price will be on

---

<sup>3</sup> Too much optimism is in fact identified with over-confidence. The difference between these two phenomena in the context of investment could be defined as follows: optimistic managers overestimate the future returns, while confident underestimate the risk of investment.

even higher level and option will be more valuable. In addition, managers are optimistic if they hold the option until the expiration date (typically 10 years). Finally, managers who do not exercise options and, in addition, buy shares of the company can be classified in the group of optimistic. For a sample of 477 large U.S. companies for the period since 1980 until 1994 it was shown that self-confident managers really connects the level of investment with cash flows (more than managers who are not self-confident). Further, managers educated in finance are less prone to this effect, while managers with a degree in natural sciences are more prone; if the manager performs several functions in the company (he is member or chairman of the board) the effect is stronger. This means that ignorant and safer (in the hierarchy of the company) managers are more optimistic. On the same sample, it was found that managers with more confidence easily engage in takeovers and mergers [11]. In addition, managers who control internal funds are more prone to merge with other companies; they are more cautious when they need to provide external funds for the integration. Given the poor results of the new company, it is obvious that this is a groundless optimism.

## 6. Conclusion

Participants in the financial market and financial managers often make decisions based on the principles of normative theory. They are exposed, like all people, to different psychological impacts. Consequently, many traditional theories, based on the principle of rational decision-making, in practice do not apply. Thus, research in the field of behavioral finance show that the theory of the irrelevance of financial structure does not have its foundation in practice. Financial managers increase the share of equity as they think stocks are overvalued, and the share of debt when the stock market is on downward trend. Contrary to the theory of Miller and Modigliani, there is no optimal capital structure, but the current equity-to-debt ratio is determined by the market value of the company in the previous period.

Such as financing depends on market sentiment, so investment is sensitive to the non-fundamental fluctuations in stock prices - the company whose shares are overvalued have an incentive to invest more than it reasonably should. This is a novelty, since according to the previous theoretical findings, the tendency to invest should not depend on the price fluctuations of financing sources, but on the estimated profitability of the project. Sensing a change in attitudes and demand of investors, financial managers, in order to raise stock prices, adjust dividend policy: pay larger



## **Behavioral Finance and Financial Management**

---

amounts when investors expect so or reduce dividends when it is appropriate for investors. Thus, irrational investors in the market will have a decisive impact on the dividend policy of companies, which is totally neglected in traditional theories.

When managers consider the purchase of another company, the offer price includes future effect to be achieved by the synergy between two companies. They will buy the company at a time when the market value of target companies is below the value managers have in mind. Since they think that the market underestimates the new ventures, they will avoid external financing and will use internal funds and external funds only in exceptional cases. Optimism in investment creates expectations that the rate of return and future cash flows will be extremely large. That is why it will be invested in the project, although its net present value objectively small or negative. Tendency to excessive self-confidence and optimism was observed for less-educated managers and managers in senior positions in the hierarchy of the company.

### **References**

1. Baker, M. and Wurgler, J. (2001), "Market Timing and Capital Structure", *Journal of Finance*, 57(1), 1-32.
2. Baker, M, Stein, J. and Wurgler, J. (2003), "When Does the Market Matter? Stock Prices and the Investment of Equity-Dependent Firms", *Quarterly Journal of Economics*, 118(3), 969-1005.
3. Baker, M. and Wurgler, J. (2000), "The Equity Share in New Issues and Aggregate Stock Returns", *Journal of Finance*, 55(5), 2219-2257.
4. Baker, M. and Wurgler, J. (2004), "A Catering Theory of Dividends", *Journal of Finance*, 59(3), 1125-1166.
5. Barberis, N. and Thaler, R. (2003), "A Survey of Behavioral Finance", u *Handbook of the Economics of Finance*, Constantinides, G, Harris, M. and Stulz, R. (eds.), Elsevier Science, 1051-1121.
6. Chirinko, R. (2004), "Glamour vs. Value: The Real Story", Emori University Working Paper.
7. Graham, J. and Harvey, C. (2005), "How the CFOs Make Budgeting and Capital Structure Decisions?", *Journal of Applied Corporate Finance*, 15(1), 8-23.
8. Heaton, J. (2002), "Managerial Optimism and Corporate Finance", *Financial Management*, Summer, 33-45.
9. Loughran, T. and Marietta-Westberg, J. (2005), "The Timing Ability of Newly Listed NYSE Firms, 1926-1962", *Journal of Behavioral Finance*, 6(2), 44-56.
10. Malmendier, U. and Tate, G. (2005), "CEO Overconfidence and Corporate Investment", *Journal of Finance*, 60(6), 2661-2700.

11. Malmendier, U. and Tate, G. (2008), "Who Make Acquisitions? CEO Overconfidence and the Market's Reaction", *Journal of Financial Economics*, 89(1), 20-43.
12. Polk, C. and Sapienza, P. (2004), "The Real Effects of Investor Sentiment", NBER Working Paper No. 10563.
13. Roll, R. (1986), "A Hubris Hypothesis of Corporate Takeovers", *Journal of Business*, 59(2), 197-216.
14. Shefrin, H. and Statman, M. (1984), "Explaining Investor Preference for Cash Dividends", *Journal of Financial Economics*, 13(2), 253-282.
15. Stein, J. (1996), "Rational Budgeting in an Irrational World", *Journal of Business*, 69(4), 429-455.
16. Van Horne, J. (2002), *Financial Management and Policy*, Prentice Hall.

### BIHEVIORISTIČKE FINANSIJE I FINANSIJSKI MENADŽMENT

**Rezime:** Tradicionalna finansijska teorija se zasniva na normativnom odlučivanju i nerealnim pretpostavkama o ponašanju finansijskih menadžera i učesnika na finansijskom tržištu. Biheviorističke finansijske teorije, zasnovane na sagledavanju uticaja psiholoških faktora na odlučivanje, daju veliki doprinos analizi finansijske teorije i prakse. Odluke o finansijskoj strukturi preduzeća, investiranju i dividendama treba posmatrati u svetlu različitih racionalnih i iracionalnih podsticaja sa kojim se susreću finansijski menadžeri.

**Ključne reči:** biheviorističke finansijske teorije, finansijski menadžment, finansiranje, investiranje, politika dividendi, psihologija



UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"

Year XLVIII, N° 4, 2010, p. 643 - 657

Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš

Phone: +381 18 528 601 Fax: +381 18 4523 268

## COMPETITIVENESS AND INSTITUTIONAL FRAMEWORK FOR IMPLEMENTATION OF COMPETITION POLICY IN MONTENEGRO

**Nikola Milovic, MSc\***

***Abstract:** The transition of the Montenegrin economy in the initial stages has led to the loss of a large regional market for products and the competitiveness of domestic products has been greatly reduced. On the other hand, conditions in the European market are increasingly stringent, and standards are becoming higher. In these circumstances, it is difficult to speak of organized foreign trade policy, which could in a short period significantly reduce the trade deficit and encourage domestic producers to export more. Reform of the policy and institutional framework for the application of competition policy could improve the economic status of Montenegro and contribute to its better integration into the regional European market. In the recent period, since 2000, Montenegro initiated significant institutional reforms, which are developing at an accelerated pace. They should follow and support the changes which are happening in the economy of Montenegro, as the process of raising the level of competitiveness, enterprise restructuring and strengthening their competitive position.*

***Keywords:** competition, competition policy, economic policy, European Union, Montenegro.*

### Introduction

Raising the level of competitiveness is a necessary prerequisite to increase the rate of economic growth and development. A modern approach to development is characterized by an orientation toward the achievement of sustainable development. The application of this new development concept

---

\* University of Montenegro, Faculty of Economics in Podgorica, E-mail:

[nmilovic@t-com.me](mailto:nmilovic@t-com.me)

UDC 338(497.16) , Review paper

Received: 01.12.2010. Accepted: 09.12.2010.

includes improved quality of life for all citizens; this means the security, availability of economic goods, protection of socially vulnerable and others.

Development concept of economy of Montenegro needs to solve a number of problems caused by the transition recession. Fulfilling the basic criteria of the EU, Montenegro could improve the overall economic environment, which should be based on building a competitive, open, export-oriented economy with flexible labor market, more efficient system of social protection while helping build a transparent market and institutional framework, maintaining stable macroeconomic conditions and strengthen those elements that create an entrepreneurial climate to stimulate growth of international competitiveness.

The importance of work and the pursuit of Montenegro to joining the family of European nations, impose the need to study competition in order to implement the new strategic orientations in the Montenegrin economy.

Starting from the fact that the competitiveness in all its forms, is imperative to economic development and the science in Montenegro studied it very briefly in the past, provides the highlight of research, the object and purpose of this scientific work.

### **Theory of Competitiveness**

The main characteristic of the modern world economy is growing relationship between different economies, not only in trade of goods and services, but also in the movement of capital flows. The liberalization of international trade and financial flows, as well as more modern and cost accessible distribution channels of goods, services and information, significantly change the definition of comparative advantages and competitiveness. In the last thirty years, competitiveness became one of the most analyzed economic terms. At the micro level, methodology for measuring competitiveness is generally agreed, and it refers to the analysis of various indicators related to a particular market segment in which the particular company is active and the market position of the analyzed company. It commonly uses the indicators of competitiveness of enterprises which are related to the market share at a given moment and its change. Among the other indicators, the important ones are: indicators of profitability, sales trends in the domestic and international markets and assessment of the company to maintain a long-term development in terms of growing international competition. On the other hand, there are different views on the measurement of competition between individual countries. Some analysts (Krugman 1996th, 1994.) even represent an extreme view that

### **Competitiveness and Institutional Framework for Implementation of Competition Policy in Montenegro**

---

the concept of competitiveness is not applicable at the country level, but only at the enterprise level. However, significant differences in economic developments in some countries at a similar stage of economic development clearly indicate the existence of successful and less successful countries. At the macro level, national competitiveness and the competitiveness of countries is defined as the ability of the countries to achieve economic growth faster than other countries and to increase the prosperity so that their economic structure is changing and adapting more efficiently towards the movement of international trade (Bienkowski, 2006). [1, pp. 83-129].

The concept of competitiveness has experienced significant changes over the time. Development of the concept begins with the classic economists Smith and Ricardo, who identified the factors of production such as land, capital, natural resources and labor as primary determinants of comparative advantages. Differences in economic performances of some countries Weber further explains by individual socioeconomic factors such as the system of values and religion, which is defined as a social and cultural capital. Schumpeter emphasizes the role of entrepreneurship, innovation and technology. Druker develops the concept of management as the basic factor of competitiveness. Sols emphasizes the role of education and technological innovation for long-term economic growth. Porter rounds up all these ideas into a model known as “Porter’s diamond of competitiveness”. The definition of competitiveness at the micro level or at the country level often starts with the work that summarizes previous theoretical views on competitiveness, which in principle have not significantly changed even today. In elaborating these views and other authors as well, Trabold (1995) analyzes four important aspects of competitiveness: the ability to sell in world markets (exports), the possibility of attracting investment, ability to adapt the economy and the ability to create and increase income. Trabold concludes that these different aspects make given hierarchy. So the possibility of the increase in disposable income that is usually measured in GDP growth is the most general indicator of the competitiveness of countries. This indicator is directly dependent on the other three indicators and each of them is an independent aspect of competitiveness.

Traditionally, the international competitiveness of the states was explained with the theories of international trade stemming from Adam Smith. It is difficult to explain today’s global modern economy with the traditional theories. As a result, the Harvard professor Michael Porter has written the book <<Competitive Advantage of Nations>> [2], in which he proposed a new theory of competitiveness, according to which national wealth is not inherited, but created by strategic choices. While, in the past,

development of a country was based on comparative advantages, like cheap labor and natural resources, today, as the basis of economic development are considered advanced factor conditions based on knowledge and developed infrastructure, high technology and innovation. For Porter, it does not matter who produces the products, but how they are produced.

Although its major roles are different, both public and private sector are interconnected in creating productive and competitive economy. No matter how good fiscal and monetary policies, effective legal system and stable democratic institutions are, they are not sufficient. Finally, wealth is created at the microeconomic level of the economy, which is based on the quality of the microeconomic business environment and operating practices and strategies at the enterprise level. Competitiveness is a multidimensional phenomenon - necessarily present in the enterprise sector and the state as a whole.

### **Definitions of Competitiveness**

Various institutions and organizations define and adopt an acceptable definition of competitiveness. Thus, the definition of the European Commission, OECD and the World Economic Forum, the Institute for Management and Development and so on are standing out.

According to the European Commission [3], competition is high and rising standard of living for countries with low levels of unemployment on a sustainable basis. Also, the competition puts economic activity under constant pressure to offer the best range of products and the best price because if you do not do that consumers can buy elsewhere as well. In a free market, economic activity should be a competitive game in which consumers are the ultimate winners. Some companies try to limit competition in the market. In order to preserve the good functioning of markets, authorities such as the Commission must prevent or correct the non-competitive behavior of companies. The Commission monitors: agreements between undertakings that restrict competition, abuse of dominant position, certain forms of mergers and reciprocal buying as well as certain forms of government assistance.

According to the OECD [4] definition, the competitiveness is the country's ability to produce goods and services that pass the test of international markets in free and equal market conditions, while preserving the long-term increase in real income.

### **Competitiveness and Institutional Framework for Implementation of Competition Policy in Montenegro**

---

Since 2005 The World Economic Forum [5] has based its research of the competitiveness on the Global Competitiveness Index (GCI)<sup>1</sup>, comprehensive index that measures microeconomic and macroeconomic foundations of national competitiveness. According to the WEF, competitiveness is defined as a set of institutions, policies and factors that determine productivity of a country [6]. In contrast, the level of productivity sets the sustainable level of prosperity that can be created by the economy. In other words, more competitive economies tend to be able to produce higher levels of income for its citizens. Productivity level also determines the rate of return on investments in the economy itself. Rates of return on investment and return on investments are very complementary to attaining economic growth rate the economy itself; more competitive economies are those that grow faster than the medium to long term. The concept of competitiveness thus involves static and dynamic components. Although the productivity of the country clearly determines its ability to maintain its level of income, it is also one of the key determinants of return on investment, which is one of the key factors when explaining the growth potential of the economy.

There are many determinants of competitiveness which are very complex. Economists have long sought to understand what determines the wealth of nations. These attempts date back to Adam Smith and focus on specialization and division of labor of the neo-classical economists, who emphasized the investments and investment in physical capital and infrastructure as well as in recent years interest in other areas such as education, training, technological development, whether it was created in country or imported from abroad, macroeconomic stability, good governance, rule of law, transparency and well-functioning institutions, the sophistication of the company, demand conditions, market size, and many others. Each of these assumptions is based on solid theoretical grounds. It is very important to emphasize that none of these assumptions is not mutually exclusive, two or more of these can be accurate at the same time. This also may be explained, that despite the global crisis, there hasn't been major shifts in the list of competitiveness, particularly among countries that have reached these assumptions, and achieve rising productivity. GCI provides a weighted average of these different components, each of which reflects one aspect of a complex concept that we call competition. All these components are grouped into 12 pillars which individually measure the levels of competitiveness.

---

<sup>1</sup>Global Competitiveness Index (GCI)

According to IMD<sup>2</sup>, competitiveness is the way in which countries and companies manage all their responsibilities in order to achieve greater progress. Competitiveness does not only represent the increase of the economic performance but also takes into the account soft factors of competitiveness such as environment, quality of life, technology, education and so on. This helps us understand why some economies are unable to maintain its high position in the list of the most competitive despite the Short-term disturbances that may occur. Also, IMD follows the development of countries through the criteria of competitiveness since the year 1989, which gives a clear overview of progress for the time period over 20 years. The final list of countries with their position and the score is calculated based on a combination of four factors of competitiveness: economic performance, management efficiency, business efficiency and infrastructure. IMD monitors the development for 2009 compared to 57 countries.

Of course, except the author and other organizations and institutions, other definitions of competitiveness are close as well. Further examination gives the review of what it means to be competitive for business, industry or the whole economy.

For companies, competitiveness is the ability to produce products and services more efficiently and effectively than do competitors [7]. In the trade sector, this means sustained success in international markets without protection and assistance. Competitiveness is usually defined through a section relating to the production itself. Measuring competitiveness in the trade sector includes the company's profitability, regional and global markets. In the trade sector, firm participation in the international markets is

In the services sector, competitiveness is the ability to achieve or win the world's best companies in cost and quality of service delivery. Measurement in this area is difficult, but it is done with total sales in foreign markets divided by total sales or share of the regional or global markets.

At the industry level, competitiveness is the ability of local companies to achieve sustained success against or in comparison to foreign competitors, without protection and assistance. Measuring the competitiveness of the industry level includes profitability of domestic firms in the industry, domestic trade balance in the industry, the balance in the external and internal movement of investments, and measuring cost and quality on an industrial scale. Competitiveness in the industrial scale is often a better indicator of economic status of the national economy than the competitiveness of individual companies.

---

<sup>2</sup> International Institute for Management Development



### **Competitiveness and Institutional Framework for Implementation of Competition Policy in Montenegro**

---

For the state, competitiveness means the ability of citizens to achieve high environmental standards. In most states, the standard of living is determined by productivity in resource utilization, total output per person in economy or capital employed. High standard of living can only be sustained with continuous improvement in productivity, achieving greater productivity in existing jobs or successful entry into the highly profitable business. At the national level, competitiveness is measured by the rate of growth in living standards, increasing overall productivity and the ability of domestic firms to improve their participation in world markets through exports or foreign direct investment. Comparative advantages suggest that some states will be competitive in some industries and uncompetitive in others. The positive balance of foreign trade can be of much help in the creation of higher savings and therefore investment and better positions the company.

#### **Competitiveness as an Imperative for Economic Policy**

Standard of living is in a great connection with the competitiveness of domestic enterprises. Competitiveness of domestic enterprises is very important if they undertake activities related to opportunities in the international market. World trade and FDI are rising faster in recent decades than the world output. Competitiveness in the industrial scale, international trade and FDI are prerequisites for economic growth. This is especially important for small countries, where competition may allow firms to overcome the limitations of their domestic markets in order to maximize the potential of owning.

Competitiveness is also important for local companies as a response to growing threats that are in the world economy. International competitors have become more frequent and stronger than before. Lower prices for transport and communication, reducing barriers to trade and technology links together resulted in increased competitiveness. This competition has put tremendous pressure on all state economic entities, including management, employees and government. Competitiveness in the service sector is also important for the economy. The service sector has a large stake in any economy. Competitiveness in the provision of services has a profound influence on the part that is related to the competitiveness of goods and products.

The attitude that the economy can not escape the rigor of the world competitors is more and more accepted in the public. No economy is self-sufficient. States are associated with the global economy through trade in

goods and services, capital flows and the global commodity prices. Each closure leads to failure and inefficiency of the economy. In the modern world, economies can be run with the world economy, but should not be closed. The concept of openness is the imperative of modern economic relations.

Competitiveness itself does not assure a path to prosperity of the country. We have to give the precise answer to the question: What is competitiveness?, Or what does it represent?

Consistently subsidized exports is not proof that a company or industry is competitive. Although there are arguments that young industries should subsidize, export which depend on state aid, shows more willingness to help the country than it really is a proof of competitiveness. Subsidized exports of agricultural goods in developing countries do not provide proof of competitiveness. Unless the company is viable and can win on its own without subsidies.

Competitiveness of the country does not mean success in exports in each industry, or for multiple industries. The success is usually connected to one or two sectors of industry, while others have less success in global competitiveness. Usually competitiveness in some industries allows countries to improve conditions, productivity etc. but also to specialize in those areas where they have competitive advantage. The import of the industries is related to those areas where the country has comparative and competitive advantages. So, it is better to import for those areas where our competitors are better in cost and quality.

All countries, even those that are most advanced and economically strongest, have areas in which they are not competitive. Competitiveness for the state does not require that it keeps all of its industry. It is disastrous if an economy protects and subsidizes industries in which it just does not have competitive advantages. This condition may affect the reduction rate of economic growth and development, meaning that any government that at all costs protects some segments of industry risks the occurrence of stagnation in the long-run and the downward trend in the economy. Instead of fighting to preserve unproductive industry, the states should find much better solutions for the use of their resources.

The country is not competitive if it has low labor costs, favorable foreign exchange or lend its standard of living by increasing public debt. Low wages can help companies to reach international markets, however, the economic goal is still productivity supported by the high wages. Competitiveness based solely on low wages will be limited if productivity is

### **Competitiveness and Institutional Framework for Implementation of Competition Policy in Montenegro**

---

not related to development and higher levels of skills of employees, better technologies, and better management. Similarly, the economic objective should be supported by strong productivity rates. Devaluation in order to obtain export competitiveness provides benefits but they are only related to short-term. Competitive economies are those whose companies are facing the international markets with a strong national currency. Finally, competitiveness corresponds to the performances of the economy that is earned not borrowed. Performances of the economy that emerge in the deficit and spending are often associated with positive effects in the short term. Of course, debts must be returned, and as such are not desirable in large amounts. Public debt incurred for the purpose of investment and resulting in very high return on investment, which is higher than the interest rate is very good for the economy and has a great impact on living standards.

Most states are not competing for either the definition. Of course this does not prevent them to compete in the world markets, although it may limit their success. The point is that companies and industries know what makes them competitive and thus improve the situation. The challenges of increasing industry productivity is the goal of all countries, except that some states are simply more successful than others.

### **The Institutional Framework for the Application of Competition Policy in Montenegro**

Competition policy in the total of the individual economic policies is of great importance for further economic integration of the Montenegrin economy. Construction of regional integration and broader forms of economic integration with the European Union, raises the question of development of legislation. Functioning of the economic system and the increase of economic activity as a prerequisite have a high-quality legislation and institutional framework. Efficient application of competition rules will provide a transparent, accessible legal framework to users that will represent the basis of building a modern economy of Montenegro.

In the competition policy of Montenegro the basis of legislative framework is the Law on Competition Protection<sup>3</sup>, which entered into force on 1 January 2006. That was the first law in this area in Montenegro, which defines and regulates the main institutes of the competition law and institutional framework for their implementation. The law is harmonized with the European Community competition law, with standards that are set forth in Articles 81, 82 and 86 Treaty establishing the European

---

<sup>3</sup>Official Gazette of the Republic of Montenegro No. 69/05.

Community<sup>4</sup>, as well as key regulations and directives in this field. The law was amended in May 2007. year.<sup>5</sup>

Aside from the above mentioned Act, in the legislation of Montenegro there are policies that specifically define the issues of competition, such as:

- Law on Electronic Communications<sup>6</sup>,
- Energy Law<sup>7</sup>,
- Law on Banks<sup>8</sup>,
- Law on Broadcasting<sup>9</sup>,

The most important sublaws passed on the basis of the Law on Protection of Competition<sup>10</sup> during 2006 and 2007 are :

- Regulation on detailed conditions for the exemption by type and set the type of agreements that may be exempt from the law<sup>11</sup>, regulation is also in line with key provisions applicable in the European legal system;
- Rules on the content of individual exemptions<sup>12</sup>;
- Regulation on the contents registration agreement and Maintaining Records<sup>13</sup>,
- Rules on the form and content of application for registration of approved concentration and form and manner of keeping the register<sup>14</sup>;
- Rules on the form and content of the request to institute proceedings<sup>15</sup>,
- Instructions on the form and content of requests for approval of concentration<sup>16</sup>

---

<sup>4</sup> According to the Consolidated Treaty on European Union and the Treaty on the Functioning of the European Union (2008 / C 115/01) those are Articles 101,102,106.

<sup>5</sup> Official Gazette of the Republic of Montenegro No. 37/07.

<sup>6</sup> Official Gazette of the Republic of Montenegro, No. 50/08 i 53/09.

<sup>7</sup> Official Gazette of the Republic of Montenegro, No. 39/03, and Official Gazette of the Republic of Montenegro, No. 53/09.

<sup>8</sup> Official Gazette of the Republic of Montenegro, No. 17/08.

<sup>9</sup> Official Gazette of the Republic of Montenegro, No. 51/02, 62/02, 46/04, 56/04 i 77/06. and Official Gazette of the Republic of Montenegro, No. 50/08, 79/08 i 53/09.

<sup>10</sup> Abbreviation ZZK.

<sup>11</sup> Official Gazette of the Republic of Montenegro, No.10/07.

<sup>12</sup> Official Gazette of the Republic of Montenegro, No. 36/06.

<sup>13</sup> Official Gazette of the Republic of Montenegro, No. 54/06.

<sup>14</sup> Official Gazette of the Republic of Montenegro, No. 36/06.

<sup>15</sup> Official Gazette of the Republic of Montenegro, No. 36/06.

<sup>16</sup> Official Gazette of the Republic of Montenegro, No. 77/05

### **Competitiveness and Institutional Framework for Implementation of Competition Policy in Montenegro**

---

- Guidelines on the criteria for determining the relevant market <sup>17</sup>.

Competition Law and amendments to the Law on Protection of Competition stipulates several institutional entities that are holders of its application.

First, the Ministry of Economy, that, as the competent authority, carries out policy proposals and development of competition, monitors the implementation of policy and development competition, issues regulations to implement the law and determine the research methods of competition.

Secondly, the Competition Authority which is operationally independent authority for the competition, which is composed of three internal organizational units: the Department for monitoring concentrations of restrictive agreements, abuse of dominant position and International Cooperation, Department for conducting misdemeanor proceedings and the Department of General Affairs.

Competence of the Competition are as follows: monitors competition in the markets in general and the particular economic sector, grants exemptions from the prohibition of certain agreements and approves the concentration of participants under the prescribed conditions and solve other issues for which is legally responsible, solves in the process of establishing a Competition under law, takes measures to participants and associations of undertakings for the violation of competition or for their prevention, termination already caused injury and the elimination of harmful consequences for participants and consumers, analyzes the market from the point of the free and effective competition and then reports assessed conditions to the Ministry, prepares technical basis for making laws, the application of European and other international standards and instruments in the field of competition, establishes international cooperation with competent authorities of other countries and international organizations, publishes applications for approval of concentration (name, concentration and nature of the economic sector within which the concentration is done) in the Official Gazette of Montenegro, as well as other activities in accordance with the law.

Under these legislative and institutional framework, in June 2008, the Ministry of Economy made the strategy of competition policy, which defined the situation in the area of competition, goals and priorities and how to achieve them, and the necessary resources for effective enforcement of

---

<sup>17</sup> Official Gazette of the Republic of Montenegro, No. 77/05.

competition rules. The ultimate goal of this strategy is the full harmonization of competition and legal provisions with the Acquis and effective implementation of policies through the functionality of independent authorities.

The strategy provides a basis for future stages in the development of competition policy in Montenegro, especially in the analysis of progress in the application of competition rules and the formation of professional and independent institution. It has been a strategic plan since 2008 until the end of 2009. Development strategy of competition is intended to ensure the transparent, clear and useful Competition Law that complies with the legal framework of the EU in the field of competition.

As stated in the Strategy itself the task of the administrative authority for the protection of competition is: „To ensure that competition works to the benefit of consumers, the public good and competitive economy“ [8]. Also, the performance of the competition for the benefit of consumers means obezbjeđvanje such market conditions, which will increase consumer safety and the possibility of greater choice, more efficient pricing, through Given that the businessmen are the consumers at the same time, ensuring the functioning of competition on consumer welfare implies the functioning to the benefit of the economy and as a result the general welfare and competitiveness, innovation as well as improved quality and product diversity. The core objective is the interest of the final consumers, not the protection of the participants in the market. According to the document, competition policy is a clear philosophy guiding the process of proper decision-making of the Authority responsible for competition and has several important roles. First, it represents a path through the fundamental principles in order to ensure effective implementation. Second, ensuring the legality through a clear philosophy in the work of the Administrative Authority for the protection of competition, and as a result the benchmarks by which the work of the organization will be evaluated. Third, additional motivation and spreading beyond the legality and focusing on the work of the administrative authority to protect competition.

The core objectives of competition policy defined by the Strategy are related to: ensurance of the compliance with the Law on Protection of Competition, promoting competition where it is not present, where it is limited or is not being implemented, raising awareness and understanding the positive effects of competition between the legislative bodies, market participants and consumers, provision of an efficient and timely service to participants in the market, both domestic and the external market, meet international obligations and contribute to the development and convergence

### **Competitiveness and Institutional Framework for Implementation of Competition Policy in Montenegro**

---

to international practice in the implementation of competition policy and its implementation.

Three-year experience in the operation of the Protection of Competition turned out to have the following limiting factors of its development: (i) an insufficient number of qualified personnel, which would guarantee the smooth functioning of the Board, which is largely hampered by the inability of planning to increase the number of employees, and drop out of the existing staff; (ii) in addition to improving the legislation, it is necessary to strengthen the human resources of specific areas of law enforcement, such as telecommunications, media, financial services and others.; (iii) lack of financial resources for the functioning of the Competition Authority. However, confirmation that the Competition Law came to life is the number of requests for approval of concentration which was 46, of which 90% of the applicant were foreign investor. This indicates that the environment in Montenegro is favorable for foreign investors, and that they have the same treatment as domestic investors in our market.

Aside from the above, further strengthening the institutional capacity of the plan and regulations necessary for integration into the EU common market in the area of competition policy is related to: (I) adoption of a new ZZK, which will be in line with EC regulations 32003R0001, 32004R0139, 31965R0019, 31999R1215, 31999R2790 and 32002R1400. Programme of the Government of Montenegro envisaged the development of this Act for the fourth quarter of 2010. years; (ii) the abolition of the Protection of Competition and the establishment of the Agency for Protection of Competition, proposing a new ZZK envisages establishment of an independent body in accordance with European practice. Such a model of performing the duties in the protection of competitors implies the functional and financial independence of the body, because the body is funded from fees for business scope of the Agency, which will be specifically provided for the Tariff, and part of the budget of Montenegro; (iii) provision of technical assistance under the IPA in the field of competition; (iv) specialized training of officers that will be aimed at informing the conduct of investigations, the use of economic analysis and making correct decisions in proceedings; (v) detection of violations of competition rules, especially the tacit agreements and abuses of dominant position, for what conditions will be provided by introducing "Leniency program"(detecting of a violation of competition law - the jurisdiction of the EC), and in the"Competition Advocacy" (raising the level of competition culture - seminars, trainings, round tables) the most attention will be focused on training judges and staff in the sectoral regulators.

### Conclusion

Strategy of the open economy is the backbone of growth competitiveness, because the country is regularly faced with global standards, costs, quality, price, deals with the structure and developments within the much broader context, which is largely dictated by the world's most successful producers. The internationalization of economic activity is closely related to dynamic economic development of small countries, it represents necessary, though not a sufficient condition for successful economic development.

Successful market economy is a condition of joining the European Union, which directly coincides with the transition of the system as they were on the scene in the Western Balkans. Therefore, in the case of the Western Balkans, including Montenegro, the process of EU integration coincides with the transition process or it represents its logical extension. In the case of countries that are lagging behind in the transition, integration into the European Union has added value because it promotes political and public support for economic reforms. Economic reforms which are taking place, should bring benefits such as increased liberalization of markets, greater foreign investment, strengthening of the macroeconomic stability and others.

The basic orientation of the development strategy of Montenegro are reforms and institutional strengthening, which is reflected in the achievement of global strategic objectives, such as: economic system based on the rapid economic development, which is based on the strengthening of the private sector, while gradually reducing dependence on foreign aid; building a legal framework that is able to adopt and implement EU laws and other international standards and regulations; and social system as a whole, which should reflect the gradual growth of living standards of citizens of Montenegro.

Harmonization with EU standards in the field of competition, new legislation regulation, administration training, raising awareness about the importance of competition for the economic environment are just some of the characteristics of the institutional environment for the application of the competition policy in Montenegro.

### References

1. Lovrinčević Ž., Mikulić D., Rajh E., Usporedba pokazatelja konkurentnosti hrvatskog gospodarstva - objektivni statistički pokazatelji i subjektivne percepcije, Mate d.o.o. , Zagreb 2007.



### **Competitiveness and Institutional Framework for Implementation of Competition Policy in Montenegro**

2. Porter E. M., The Competitive Advantage of Nations, The free press a Division of Macmillan, Inc. New York, 1990.
3. <http://ec.europa.eu/>
4. <http://www.oecd.org/>
5. <http://www.weforum.org/>
6. World Economic Forum, The Global Competitiveness Report, 2009.
7. Enright J. M., Frances A., Scott-Saavedra E., "The Challenge of Competitiveness in the Modern World Economy", Chapter 3, The Challenge of Competitiveness, St. Martin's Press, Venezuela 1996.
8. Ministarstvo za ekonomski razvoj, Strategija politike konkurencije, Vlada Crne Gore, Podgorica, 2008.

#### **KONKURENTNOST I INSTITUCIONALNI OKVIR ZA PRIMJENU POLITIKE KONKURENCIJE U CRNOJ GORI**

**Rezime:** Tranzicija privrede Crne Gore je u početnim fazama dovela do gubitka velikog regionalnog tržišta za plasman proizvoda, konkurentnost domaćih proizvoda umnogome je smanjena. S druge strane, uslovi na evropskom tržištu sve su strožiji, a standardi sve viši. U navedenim okolnostima, teško se može govoriti o organizovanoj spoljnotrgovinskoj politici, koja bi mogla u kraćem vremenskom periodu da značajno smanji spoljnotrgovinski deficit i podstakne domaće proizvođače na veći izvoz. Reforma ove politike i institucionalni okvir za primjenu politike konkurencije mogli bi da unaprede ekonomski položaj Crne Gore i da doprinesu njenom boljem integrisanju na regionalnom evropskom tržištu. Crna Gora je u proteklom periodu, od 2000. godine pokrenula značajne institucionalne reforme, koje se razvijaju ubrzanim tempom. One treba da slijede i podrže promjene koje se dešavaju u ekonomiji Crne Gore, poput procesa podizanja nivoa konkurentnosti, prestrukturiranja preduzeća i jačanja njihove konkurentske pozicije.

**Ključne riječi:** konkurentnost, politika konkurencije, ekonomska politika, Evropska unija, Crna Gora.





UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"

Year XLVIII, N° 4, 2010, p. 659 - 670

Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš

Phone: +381 18 528 601 Fax: +381 18 4523 268

## VALUE BASED MANAGEMENT IN THE FUNCTION OF ENHANCING ENTERPRISE COMPETITIVENESS

**MSc Jelena Andrašić\***  
**Mr Renata Amidžić\*\***

**Abstract:** *Faced with gradual increasing market competitiveness, a company finds itself in a situation where it searches for an answer how to improve its competitiveness in the market, considering the role of a manager in this. One way of improving company's competitiveness is the application of the value-based management philosophy. The paper presents five flows of activities that management teams must perform to ensure full utilisation of advantages of this management technology. For purpose of achieving value-based management, fifteen key factors have been recommended.*

**Keywords:** *competitiveness, management, value, value-based management*

### 1. Introduction

During the last century, business environment is experiencing drastic changes. Organizations are faced with entirely new challenges. The changes define the "status quo". In the entire world, companies are faced with slower growth, as well as domestic and global competitors. What organizations need is a process of guidance through the continuous and persistent changes, thereby maintaining their balance and safety. The direction of survival is located in the application of new management philosophies based on values.

Management theories and practices that have too many times evolved during the twentieth century had a simple, non-dimensional and integrated approach for sophisticated, multi-dimensional and complex

---

\* University of Novi Sad, Faculty of Economics, Subotica, E-mail: andrasic.jelena@ef.uns.ac.rs

\*\* Republic Health Insurance, Novi Sad, E-mail: renata.amidzic@gmail.com

UDK 005.22, Review paper

Received: 26.07.2010. Accepted: 12.11.2010.

problems. A few approaches were effective, but most proved to be quite unsuccessful in improving organizational performance of company. Often the cause of failure of given goals was unclear definition and alignment with the ultimate goal of creating value. Competitive advantage, in fact, arises from the values that a company is able to create for its customers [1, p. 22]. Value Based Management - VBM is a comprehensive, multi-faceted philosophy of management that deals with this problem in general [2, p.3]. It provides precise and unambiguous metrics - value - on which the entire organization can be based.

## **2. Value based management**

Management based on values can best be understood as a relationship between two elements: the idea of value creation and management processes and systems necessary to translate the idea of values into concrete actions. None of the elements can function separately, they are closely linked, and only as a whole can have a significant impact on the philosophy of value creation.

One approach that value based management repose is that organizations basically, have to do two things in a proper manner. First, they must accept the economic benefit as a key metric of management and business performance of enterprises. Second, compensation incentives must be closely linked with the achievement of stated objectives, measured by economic profit. The logic of this approach suggests the following: if managers accept these principles by introducing economic profit as a measure and reward managers based on the same measures this will bring to the growth of the value of the company, growth of value for customers (as a secondary stakeholders) and to improve of competitiveness of the company.

Therefore, management based on values is a concept with a clear philosophical basis and the process that is structured in phases. The new practice of management integrates objectives, strategy and management processes to create value [3, pp. 18-19]. Figure 1 shows transparent framework for integrating values into management process. Management of value is a practice that emphasis strategy, investment and business planning in order to understand and provide value creation process. To create the value, it is necessary to establish a consistent system of performance measures and reward system based on these measures. This system should provide the motivation of managers in the selection and application of those strategic options that will maximize value.

## Value Based Management in the Function of Enhancing Enterprise Competitiveness



**Figure 1. Integrating values into a comprehensive practice of management [4, p. 179]**

According to one study, those companies that carried out this management approach effectively and in the long-term concluded the following. Value based management is a holistic management approach that redefines the goals, redesigns organizational structures and systems, modernizes its strategic and operational processes, and renews the practice of human resources in those companies that had poor skills to create value. In short, the management approach based on the values induced changes in organizations that were affected by the practice of destroying value.

Companies that are considering introduction of value management, as well as other companies, already engaged in this process, should follow five courses of actions that management teams must take in order to have advantage of the technological management in full:

- commit to value and follow the course,
- redefine the role of corporate services as a creator of values,
- let the responsibility to business units in creating the value of its potential,
- turn each employee into a creator of value,
- allow that technology of value based management to become “way of life” for companies.

### **2.1. Value and Value Creation**

The basic question that CEO has to ask is how to set up communication within the company, in order to focus employees on what really matters, and that is creation of value.

In the modern period, economic value or shareholder value is a performance measure, trying to be accepted, not only for profit-oriented, but

also for government and non-profit organizations, where the perspective of assessment value is something different. Supporters of this concept point out that representing and promoting the mechanism of increasing the value is the only way to manage business performance successfully.

For years, the scientific discussion is taken about the definition of the term value and whether the goal and mission of the company is to increase shareholders wealth as business owners or to meet the interests of other stakeholders. This dilemma resulted in the formation of two theories: the theory of the priority of the owner or shareholder theory and stakeholder theory. The basic assumption of the theory of the priority of shareholders over other stakeholders is that maximization of owner wealth leads to maximization of social and national wealth. The theory of stakeholder tries to determine the relationship of companies and interest groups to which the company has some responsibility. Stakeholders include groups or individuals that affect the business or are influenced by the business enterprises activities. The most important stakeholders of the company are owners, managers, employees, customers, suppliers, government, community, etc. Each of these groups has its own goals and interests related to the operation of enterprises, the basic criterion for the measurement of performance is the achievement of certain objectives of the stakeholders.

The company must find a balance in meeting the interests of both groups. According to stakeholders, the company has a certain responsibility that can be financial and strategic. Company has financial responsibility to owners, while the strategic responsibility is that one which company has to all other interested parties. One of the most important roles of management is to find an acceptable balance between the financial responsibility to shareholders and strategic responsibilities to other stakeholders. In order to make the balance, managers must start from the fact that the financial responsibility is required for later fulfilment of strategic responsibility. However, this relationship should not be seen as one way. Namely, neglecting strategic responsibility may result in company's inability to meet financial responsibility.

It can be concluded that fostering good relations with stakeholders is a prerequisite for better financial performance, and ultimately increased value and stock wealth. A good example of implementation of management based on value is a world leader in soft drinks industry – 'Coca-Cola'. This company says that it provides value for any connected party. This statement proves philosophy or an attitude of this company's manager. The basic task of this manager is to create value for shareholders by delivering value to other stakeholders [3, p. 14]. Consequently, this is not a zero-sum game in

## Value Based Management in the Function of Enhancing Enterprise Competitiveness

which the objectives and increase of wealth for owners in some way diminish the benefit of other stakeholders. On the contrary, the owners or shareholders are the only stakeholders that simultaneously maximize the satisfaction of the interests of other stakeholders in efforts to maximize the satisfaction of self-interest [5, p. 14].

### **2.2. Redefining the Role of Managers as Creators of Value**

The pressure of capital markets and increasing global competition poses a challenge for managers in terms of justification the logic of value creation in the corporate enterprise strategy. In considering the question of corporate strategy, attention is always drawn to the personal contribution of managers in creating value.

Management based on the values redefines the role of managers as the main carriers of creating value in companies. Redefined role of managers characterize two important facts. Top management takes an active role in defining and eliminating activities that destroy the value, and launches an initiative to increase value. In its early stage, value based management leads to unbiased ejection of units that are destroying the value of the corporate portfolio. Executives and managers are inevitably confronted with the reality of their job, with an alarming call for changing the routine. In this way, the analysis of values often leads to the discovery of the current situation and causes appropriate action. Diagnosis based on the value analysis is only a starting point for developing a new corporate strategy based on value, and the way companies deal with the results of the analysis varies from case to case. In some companies, portfolio diagnosis triggered a series of non-investment. An example is a well-known banking group Lloyds TSB, which sold most of its international operations. Some other companies have applied a completely different approach, giving their managers a grace period for repayment of business in the state of value creation. Juergen Schrempp, CEO of Daimler-Benz, applied this approach. His goal was to cover 10% of the cost of capital within 18 months. On this basis, we can say that the analysis of values, in addition to incentives for disinvestment in certain units and activities, also provides some positive impulses to business in order to realize its potential value.

Although eliminating activities that destroy the value and returning to the path of creating values is necessary for the realignment of the company, sometimes that is not enough for victory in the global economy today. The main objective of the business in the global economy, based not only on creating value but also on achieving a better sustainable position among the creators of values, is to be first among equals. This difficult and

relatively successful performance standard, imposed by institutional investors, is the same one that companies now require. Relentless competition is constantly raising the hurdles for creating value, making it a mobile target. Each time the obstacle is on the increasing level and reaching values is more difficult.

One of the solutions, which the company based on values, have to do is managerial taking the initiative in identifying and generating opportunities to create value, which inevitably leads to a change in strategy. Once it stopped leaking value from the company, discipline of value creation is completely open to finding new acquisitions, the possibility of entering new markets and promotes capital of the company brand. With regard to concentrating the company's attention on rapid growth, these activities represent new strategic priorities.

### **2.3. The Responsibility of Business Units in the Value Creation Potential**

Although corporate managers have an active role in creating value through non-investment, acquisition and new market opportunities, the main drivers of value creation are still, individual companies. A key challenge of managing value lies in fostering creativity of managers of individual enterprises, promoting their entrepreneurial instincts and taking a leading role in the identification and exploitation of opportunities to create value. While business managers are key actors in this challenge, corporate management has a different role this time as a partner and helper in the business. The challenge that corporations face is how to develop a proper balance of decision-making between companies and corporate governance in order to optimize the overall effort to create value. The object is to strengthen entrepreneurship and growth, on the one hand, and profitability and optimizing resource allocation, on the other hand.

Value based management, if not solves completely, then at least alleviate this dilemma. Value based management helps business managers to focus ability of strategic thinking and reduce or eliminate the previous flaws of decentralized development strategy. That, ultimately, helps corporate managers to develop confidence in business managers and their strategies. In this way, it creates a vicious circle of trust between the corporate and business managers. In addition, the management of value forces corporate and business managers to redefine the nature of their relationship toward a common goal of maximizing value with assigning accompanying tasks and responsibilities to each group. This relationship, in turn, allows corporations to reorganize their practices of strategic planning and resource allocation in favour of a new vision of corporate-business partnerships.



### **Value Based Management in the Function of Enhancing Enterprise Competitiveness**

The practice of value management was created based on the philosophy of decentralization of governance. As an example, we can mention the case of well-known chemical company, Dow Chemical [<http://www.dow.com/about/>]. Applying value management, the company is divided into 15 units, which are also divided into more than 100 centres values. Each value centre is obliged to implement a comprehensive analysis of the basic attractiveness of its business segments and the relative competitive position. On this basis, several strategic options can be implemented. In addition, the team of business managers (general and key functional managers) working together, must evaluate all strategic options and its economic returns during the scheduled time.

#### **2.4. Employed as Creators of Value**

The goal of value-based management is reaching to every employee in the company. The challenge of directing employees to become creators of value, should not be underestimated, because those companies that successfully apply it, can expect a multiple positive results and increase in the competitiveness of enterprises. Value based management is a vehicle for harmonization strategy and operations of the company, so it helps to understand the cause and consequently the ratios of employment and economic value. On organizational levels where they cannot directly determine the economic benefits, value management helps employees to identify and evaluate the operational factors that have the greatest impact on value creation. In this sense, an essential part of the concept of value-based management is comprehension of the variables to create enterprise value - the key drivers of value. Understanding the drivers of the values is necessary, because the organization cannot directly act on the value. Value driver is any variable that affects the value of the company. To be useful, the value drivers should be organized so that managers can identify which have the greatest impact on the value and assign responsibility to individuals for individual drivers and to fulfil the goals of the organization. New management practice also provides useful guidance in developing and evaluating options and choosing the best, based on the principles of value creation. Determination of value drivers opens an entirely new approach to strategy of business process. Identifying the key drivers of business value, or specific activities, requires negotiation between business teams about what drives the business, what consumers want, what is competition, as well as other significant strategic and operational questions about what affects the value. The result of identifying the key factors is a clear picture of who and what creates value in different parts of the company, both in the long term, and short term, and who is in organization liable to affect the drivers.

In addition, new practice of management identifies the key drivers of value, it stimulates positive changes in the behaviour of employees, such as the growth of personal responsibility and morality, taking initiative and improving skills. Such behaviour of employees benefits the company in the form of magnification values at all levels of the organization. To create awareness about value creation, it is necessary to establish a constant communication about what a value management actually is, why it is introduced and the whole logic of turning the company into a company based on values. Next critical but also the last step of creating value in the company is connection benefits with shareholder value. The relationship between employees' benefits and economic value, distinguishes the company based on values and those that do not apply this approach to management. Large role in the process of creating value are bonuses that are given to workers for achieving the desired objectives. It is interesting that the size of the bonus does not play a big role in success or failure of implementation of value-based management. Importance is placed on providing a constant, rather than extensive stimulation. Although, at lower organizational levels, they amount to a modest 10-20% of the annual amount of earnings, and continue to be a powerful motivator for many workers who previously did not participate in bonus programs and who must perceive the connection between daily activities and awards, both financial and mental.

### **2.5. Value Based Management as a Way of Life of Company**

Era of robotics, advanced information systems, globalization of production, marketing and distribution, established a new way of perceiving the role of workers and the nature of the workplace. Because of global and technological changes, companies have recognized that for their continued survival and success, it is necessary to change the way they do business. Companies are looking for new, more flexible ways of rewarding and motivating employees, controlling costs and providing higher levels of value to its customers (clients). What is necessary for companies to overcome all these obstacles is the new way of thinking. This new way of thinking does not reject the key role of the system; it is redesigning it to put a man in the first place. New management approach re-humanises workplace by establishing effectiveness, responsibility and control over modern tools and advanced organizational systems for all persons involved in the process. The new system combines the principles of equity (justice and ownership) with the principles of efficiency, to improve performance, as firms and individuals themselves to the highest level, with the aim of providing quality products and services to consumers and other stakeholders. Instead of highlighting the wisdom, knowledge and creativity of individuals, the new

### Value Based Management in the Function of Enhancing Enterprise Competitiveness

system recognizes the benefits of highlighting and combining the wisdom, knowledge and creativity of every worker. Development of new management processes and systems is not self-sufficient, if the employee does not adopt the idea of creating value in the organization. Simply put, employees must be open to accept the idea of creating value, as a new way of life of company.

### **3. Conclusions**

In order to achieve successful value-based management, it is necessary to define the following fifteen key factors:

1. In order to manage a company successfully manager sets clear communication to employees. To determine whether a particular company successfully applied management approach based on values, we can ask the following: which group of stakeholders (owners-shareholders, customers, employees or other group) does management of company attach more importance when making decisions? Companies that give priority to increasing the value and interest of the owner-shareholders are oriented to the modern approach to management decision-making that is based on values. In addition, it can be said that those companies that dominate clear oral and written communications with employees represent the type of company with modern management approach.

2. Appropriate external controls (mechanisms) are important for proper decision-making within the company. For understanding the true picture of application of external mechanisms, it is necessary to take into account how big is the level of testing that is done in companies and what impact these mechanisms have on increasing corporate value.

3. Improving relations with investors. Within this point, the question arises: what approaches are used to increase the liability of the company to investors? For companies which management is based on the values, it can be said that they have several specialized units and personnel responsible for relations with investors and a higher incidence of presentation and dissemination of information about the company, compared to companies that do not apply the concept of value based management. It can be said that the number of conducted research and development activities shows the difference in approach between companies with management based on values and those that do not apply this concept of management.

4. Proper operation of internal mechanisms. One of the key internal mechanisms of corporate governance, through which the owners-shareholders influence the behaviour of managers are boards. A key

requirement is that there should be appropriate involvement of independent, non-executive directors in studying the process of financial reporting, internal controls and risk management. Thus, one can conclude that a properly functioning internal mechanism (control) is important for the stable increase in company value.

5. Proper functioning of the highest organ of decision-making as a consensual (advisory) board. Within this point, the question arises: How does the decision-making function within the board of directors and other organs with a high level of decision making (conferences, convening of meetings of directors or other forums)? Decision-making is mainly performed based on open debate among the initiators of the proposal. This method of decision-making largely prevails in companies based on value-management. These facts indicate that the proper functioning of the forum for making the important decisions is of a paramount importance to the just decision-making and increase of corporate value of the enterprise.

6. Establish precise standards for decision-making. The companies that applied management approach based on values, are applied to greater extent and there are clear guidelines for making decisions in relation to companies that do not apply the concept of management based on values.

7. In making investment decisions, criteria closely linked to corporate value should be used. Within this point, the question arises: which key indicators are used as a criterion for making investment decisions in the company? Some of the key indicators are net present value - NPV, internal rate of return - IRR, return on investment return on investment - ROI, payback period and others. The difference between the value-oriented companies and those that do not apply this concept are in net present value. Net present value is the sum of annual net positive effects discounted to their present value using discount rates. To be eligible investments, net present value must be greater than zero, which means that the positive effects outweigh the investment costs. On this basis it is considered that the use of clear indicators to make investment decisions have an important role in the implementation of management practices aimed to increase corporate value.

8. Define indicators of efficient use of capital as well as financial indicators in the medium-term planning. Indicators that are used when making medium-term plans and investment proposals are economic value added - EVA, return on assets - ROA, return on capital employed - ROCE, return on equity - ROE as well as other indicators of the efficiency of capital. Therefore, for applying value-based concept of management, the first step in increasing corporate value is to set indicators to determine the efficiency of capital in the medium-term planning.

### **Value Based Management in the Function of Enhancing Enterprise Competitiveness**

9. The complex relationship between the measures set forth in the plans for the current fiscal year, and budget. The level of compliance of objectives with the possibilities is the question. That is, the extent to which the measures specified in the plans for the current year are in line with the budget, as the financial instrument for the enforcement of these measures. The connection between the measures and the budget is extremely important for successful value-based management, and the companies need to strengthen this relationship in the future.

10. Harmonization objectives of the organization with the goals of management department. Besides the alignment of organizational goals with the goals of managers, as a very important success factors in the concept, it is necessary to consider what the organizational goals, set to increase corporate value are. Setting financial goals is not just enough for a sustainable increase in corporate value. Non-financial objectives (rate of performance improvements, the adoption rate of the necessary skills and others), also, must be part of organizational goals. By assumption, the evaluation of non-financial objectives is the baseline of differences between value-based companies and those that do not apply the concept.

11. Conducting periodic review in order to discover the progress of organizational goals and methods for achieving those goals. Within this point, the question is how often and how to implement internal control of set up organizational goals. In value-based companies, department managers and their superiors in a higher degree should discuss the possible improvement of organizational goals and methods of their realization in the given timeframe.

12. Provide an overview of the results in the current period, which will serve as the basis for formulating plans for the coming period. For most of value-based companies, it is common to formulate plans for next period based on the results achieved in the previous period. It is inevitable that the formulation of plans for the next period is done before, not after compiling reports on the results achieved in the current period. It can be concluded that the formulation of plans based on the results achieved in the previous period, improves the quality of corporate strategy, and therefore increases the company's corporate value.

13. Application of the reward system based on performance. Within this point, the question is what percentage of the earnings of managers, in fact, is based on performance? In value-based companies, increasing percentage of earnings should be based on the effects. That is, the effects of managers who will contribute to increase in corporate value of company. On

that basis, well-designed motivational aspect significantly influences the effects of managers, and increases corporate value of the company.

14. Defining clear standards of performance assessment within the system of wages based on performance. Value-based companies must have standards for assessing performance and they must be clearly defined.

15. Understanding of value-based management should be spreading. The question is to what extent employees have fully understood the proper way of performing their duties in order to increase the corporate value of company. It is crucially important that corporate value can be increased only if every employee in the company fully understands his duties and responsibilities. It is important to ask about the way to achieve that. A company needs to create a mechanism that will allow each employee a better understanding of how his/her individual tasks and objectives are positioned within the company and that thus, he contributes to increase in corporate value.

### **References**

1. Porter, E. Majkl, Konkurentna prednost: ostvarivanje i očuvanje vrhunskih poslovnih rezultata, Asee books, Novi Sad, 2007.
2. Pohlman, A. Randolph, Gardiner, S. Gareth, Heffes, M. Ellen, Value Driven Management: How to Create and Maximise Value Over Time, AMACOM – American Management Association, New York, 2000.
3. Young, S. David, O'Byrne, F. Stephen, EVA and Value-Based Management: A Practical Guide to Implementation, McGraw Hill Companies, New York, 2001.
4. Kaličanin, Đ. (2005). Menadžment zasnovan na vrednosti: Teorijska osnova, akcionarski zahtevi i koncept. *Ekonomski Anali*, vol 50., br. 165, str. 165-184.
5. Copeland, T., Koller, T., Murrin, J., Valuation: Measuring and Managing the Value of Companies, John Wiley&Sons, New York, 2000.
6. <http://www.dow.com/about/> (date of website visit: 28.06.2010).

### **UPRAVLJANJE VREDNOŠĆU U FUNKCIJI POBOLJŠANJA KONKURENTNOSTI PREDUZEĆA**

**Abstrakt:** Suočeno sa sve većom tržišnom konkurencijom, preduzeće se nalazi u situaciji traženja odgovora kako poboljšati svoju konkurentnost na tržištu, pri čemu se postavlja pitanje uloge menadžera u tome. Jedan od mogućih načina za poboljšanje konkurentnosti preduzeća nalazi se u primeni filozofije upravljanja zasnovane na vrednosti. U radu je ukazano na pet tokova radnji koje menadžment timovi moraju preduzeti kako bi se u potpunosti iskoristile prednosti ove tehnologije upravljanja. U cilju ostvarenja uspeha menadžmenta zasnovanog na vrednosti, predloženo je i petnaest ključnih faktora.

**Ključne reči:** konkurentnost, upravljanje, vrednost, menadžment zasnovan na vrednosti.



UNIVERSITY OF NIŠ  
FACULTY OF ECONOMICS  
"ECONOMIC THEMES"

Year XLVIII, N° 4, 2010, p. 671 - 684

Address: Trg kralja Aleksandra Ujedinitelja 11, 18000 Niš

Phone: +381 18 528 601 Fax: +381 18 4523 268

## DESIGNING ORGANIZATIONAL STRUCTURE: AN INTEGRATED APPROACH

Ivan Stefanović, MSc<sup>\*</sup>

**Abstract:** Numerous indicators suggest that the trend of increasing turbulence of the environment will continue in the future, which means that the organizations will be forced to frequently change their strategies, processes and structures, resulting in the increase of importance of organizational design process. This paper depicts a process of organizational design that is based on an integrated approach to the organization. It means that we are approaching the organizational design in two opposite directions simultaneously: top-down and bottom-up. In this way, the process of organizational design is taking in the consideration strategy demands and the requirements of processes within the organization.

**Keywords:** Organizational design, organization, strategy, process, environment.

### Introduction

One of the topics that is eventually revealed as a key issue for successful functioning of organizations in the contemporary environment relates to the organizational design. Organizational design can be viewed as a process that combines analysis and creativity. For many decades, this process has been drawing the attention of scholars and practitioners in the field of management and organization. It is a very pragmatic and systematic process whereby all components of the organization (strategy, processes, structure, organizational culture, reward systems, etc.) are mutually adjusted, while at the same time these same components are aligned with all other relevant factors in the external environment.

---

<sup>\*</sup> College of Business Economics and Entrepreneurship, Belgrade,

E-mail: stefanovic@sbb.rs

UDK 005.72, Review paper

Received: 12.11.2009. Accepted: 12.11.2010.

Interest in organizational design dates from the first half of the twentieth century, when the first papers emerged that are, in more or less explicit manner, processing this complex problem. Among the authors who have dealt with this issue in this period were Oliver Sheldon [21], Henry Fayol [6] i Luther Gulick [11].

However, a significant shift in the theory of organizational design can be related to the work of Henry Mintzberg “The structuring of organizations” with which it creates a framework of organizational design through the synthesis of many previous studies into a coherent whole [16]. One of the main results of this theoretical-empirical synthesis are the three main hypotheses of effective organizational structuring, which indicates the necessity of mutual adjustment of all the main components within the organization, and their compliance with all the factors in the environment that are relevant for the functioning of the organization observed. In other words, it is very important to achieve mutual adjustment between strategy, structure, processes, reward system and the existing human resources, as well as with all the relevant factors of general and specific environments.

Experience has shown that organizations achieve the highest degree of effectiveness when there is a high level of alignment of organizations with their environment and when there is coherence within the organization, between its components [17]. Contributions to mutual alignment of key organizational components are later given by a number of authors. One of the most prominent contributions was provided by Jay Galbraith and by his model that he called the “Star Model” [9]. This model shows the necessity of mutual alignment of all key components within the organization, where each of the displayed components is associated with all other components. This means that changes in any of these components is very likely to result in corresponding changes in other components, which fully supports the previously exposed Henry Mintzberg’s hypothesis.

Galbraith argues that the strategy should be the starting point in organizational design and he stresses [10, pp. 23]:

“The strategy is the basis of organizational design, whose constituent elements are connected in a logical manner. The strategy defines the framework within which all future decisions regarding the organizational design will be adopted ... The strategy allows an organization to project the image of the future: where it is going and what is needed to get there. The complement to the picture of the organization in the future is the complete understanding of how the organization operates in the current situation, or knowledge of what works well and what needs to be preserved, as well as the knowledge of the problem and what should be changed.”



## **Designing Organizational Structure: an Integrated Approach**

---

Organizational design can be viewed as a long-term and comprehensive process of conscious, deliberate and controlled development and changes in the organization in order to improve its effectiveness and efficiency, and quality of life and humanity of the working conditions there. By designing the organization, it is referred to the active and creative change, not a passive and reactive adaptation of the organization [4].

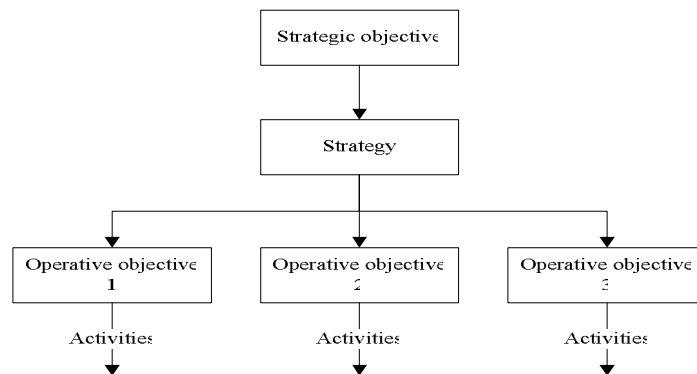
Given that the issue of organizational design is very extensive and complex, we will narrow the main theme of this work to the design of organizational structure, but in terms of an integrated approach, which simultaneously takes into account both directions in the process of designing the structure: top-down and bottom-up. In other words, an integrated approach to organizational design starts simultaneously with the top management level and operational level. The starting point of this approach is a strategy, as well as work processes. Among other things, this means that strategies and processes should reflect the reality in which the organization is based and reflect the direction and manner in which the organization wants to achieve its objectives.

### **1. Strategy as a Basis for Organizational Design**

In contemporary environment, which is subjected to frequent changes, organizations must develop a system of organizational response to any relevant changes in the environment in real time [2]. In other words, the organization must develop a set of skills that will allow it to be ready for all possible events in the environment that are relevant for its functioning. These capabilities increase over time due to organizational evolution that takes place permanently, so that the organization is continuously adapted to changes in the environment [8].

The organization adapts to changes in their environment primarily through the strategy, which is a reflection of its performance in the environment. The strategy actually makes a kind of link between the organization and its environment. Using appropriate strategies, the organization adapts to surrounding environment and adjusts itself [3]. Selection of the optimal strategy depends on the organization's top management and its perception of the overall conditions in the environment, and how the organization should function in order to continuously adapt to the environment in an effective and efficient manner [15]. The mere realization of the strategy relates to the execution of activities in accordance with the limitations imposed by organizational environment and available resources [5].

The starting point in forming a strategy is the basic (strategic) objective or objectives which need to be formulated in line with higher levels of strategic elements, i.e. should be in alignment to the realization of organizational vision and mission, and to be within the framework of policies and programs [22]. The next step is related to precisely determination of the optimal way to realize this objective. Here it comes to designing a strategy that will over time, during implementation, to a lesser or greater extent, change and adapt to new circumstances. The next step is decomposition of strategy on more specific objectives to be achieved, so that the strategy is fully implemented, in order to achieve the main objective of the organization. Once this is done, it ought to determine the specific activities and tasks for implementation of these operational objectives. This process of decomposing objectives at lower-level objectives and determining actions for their implementation should be carried out to a satisfactory level of details or to a level at which all the objectives and activities for their implementation are quite simple and understandable. Figure 1 depicts the process of decomposition of primary objective, as well as the relationship of objectives and strategies.



**Figure 1: The relationship of objectives and strategies**

Based on identified strategies and activities that represent its component segments, it is accessed to the organizational design that will serve its realization. Of course, it is necessary first to accept the process perspective, as is reflected in the next part of this paper.

## **2. Processes as a Basis for Organizational Design**

Increasing the level of competitiveness in the global market in a number of industries has caused many changes in prevailing managerial paradigms of the concept of organizational functioning. The focus of these

### **Designing Organizational Structure: an Integrated Approach**

---

changes is placed on the users of organizational outputs (products/services) and processes leading to the realization of these outputs. In other words, organizations are increasingly focusing on the satisfaction of conscious and unconscious needs and desires, both existing and potential customers, which is the core of the marketing concept. However, successfully meeting these needs and desires requires prior knowledge of all processes and activities that contribute to the realization of outputs of the observed organization. Knowledge of all processes within an organization can help in monitoring and managing them.<sup>1</sup> This is so-called “process approach” in organizations, which is implemented by process-oriented organizations.

Process approach, and organizational orientation toward processes, means that attention in the organization shifts from the final results (products and services) to the chain of activities that shape these results. The idea is that, given that the process is one that (with the active participation of people) produces results, the processes in the organization should be managed and continuously improved [20]. Process approach can be seen as directing attention to the processes within the organization versus hierarchy, with special emphasis on outputs and user satisfaction with these outputs [14]. Focusing on the processes leads to a reduced total flow time of the process, as well as to increased flexibility, allowing rapid response to variations in market needs [12]. Introduction of the process approach as a basic concept of strategic management or as the basis for managing the entire organization, greatly facilitates the introduction of the BSC concept<sup>2</sup> and measurement and monitoring of various indicators of organizational performance, which is why a very great deal of attention has been dedicated to this management concept in recent years [18].

However, the process approach ought to be differentiated from process organization (an organization whose structure is based on the process), which is called the “horizontal organization” in the literature. Process approach is related to understanding the activities and processes taking place within the organization and represents only the first phase of the construction of the process organizations. Process approach can be seen as a broader term than the process organization because the organization can reach a certain level of process orientation (in terms of knowledge of their processes and management), without being formally organized around their processes [13]. On the other hand, process organizations are those organizations in which the entire operation is set so that it can be seen as a

---

<sup>1</sup> Knowledge of the process within the organization relies upon their structure, boundaries, specific technology, inputs, outputs, flow time, etc.

<sup>2</sup> BSC is an acronym of the term “Balanced Scorecard”.

process or part of the process. Process organization is managed through its base processes. In other words, the changes of processes affect changes of the entire organization. These organizations have a minimum number of hierarchical levels, which increases their flexibility. In this way, they are able to react quickly and to adapt to different situations in the contemporary environment, while the central focus of these organizations is on a thorough understanding and monitoring of all processes within the organization.

Although the studies of processes are not recent, now the more attention is devoted to them than ever. The reason for this is that the growing global competition is forcing most profit-oriented organizations to continuously improve their own level of effectiveness and efficiency, rapidly changing their products and services and constantly adapting to the changing environment, in order to maintain a developed market position. To have success in this, these organizations must devote great attention to its own manner of functioning, i.e. the structure and dynamics of their own processes.

Knowledge of processes in the organization begins with their mapping and identification. This step raises primarily a question of principles and rules for their identification, and then the question of their presentation.

Proper process identification should respect the following principles and rules [19]:

- The processes can be accurately and completely identified on the basis of the identified, classified and specified outputs of the organizational system whose processes are identified.
- First, it ought to identify the basic (core) processes following the logic that can be identified in the logical tree.
- During the process identification, it ought to maximize the use of universality as a very important attribute of the process. This means that the same universal processes should be recognized for those outputs, which have very similar technology.
- Comminuting or hierarchical decomposition of process should be done as long as it takes to recognize the opportunities and the process specifications (Figure 2).
- Identified processes should be classified at least from the aspect of standardization and creativity.

After finishing the process identification, the question of their representation is naturally raised. The processes can be displayed in various ways. The most important thing is to see what process contains, where it

### Designing Organizational Structure: an Integrated Approach

started and where it ends, determining the boundaries of the process, from which activities or sub-processes (processes of lower hierarchical level) it is made, who performs the activities, etc. Because of these requirements, the most common in use are process scheme (process map) and a flow chart [19].

Clear and accurate identification of process enables simplicity in managing them. In other words, knowledge of the process enables organizations to more easily perform all the necessary changes within them, which causes an increase in flexibility, which is one of the main characteristics of organizations working in conditions of turbulent environments.

On the other hand, the identification of process is a step that precedes the design of appropriate organizational structures. This principle is clear: the organizational structure should be at all times in the function of the realization of the process, not the other way around (the process should not be adapted to a predefined organizational structure).

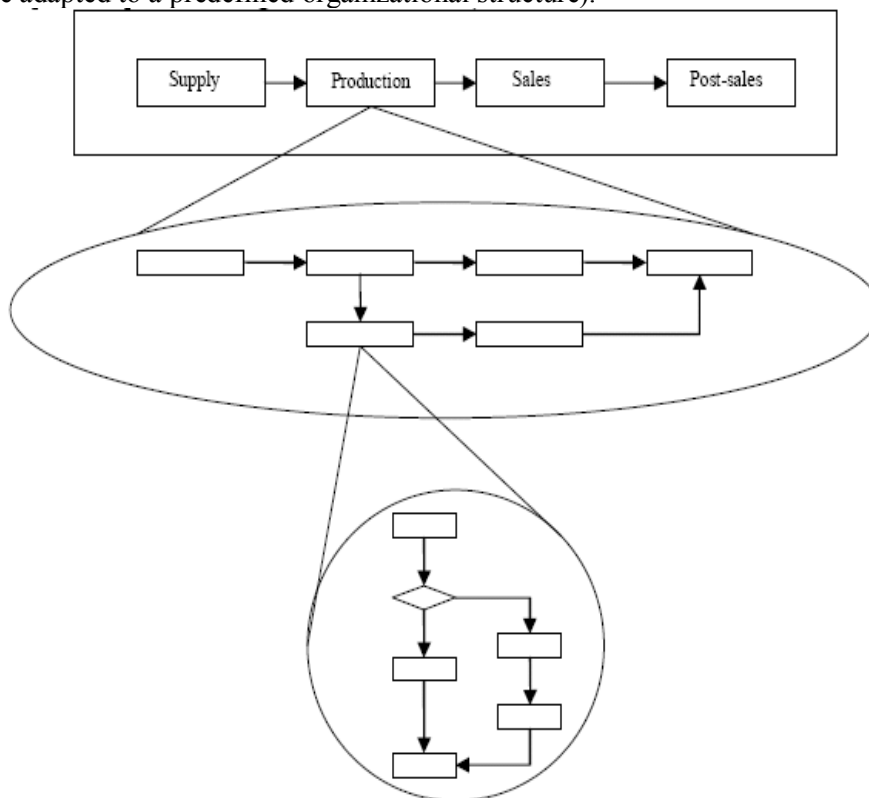


Figure 2: Example of graphical representation of process decomposition in the organization

### 3. Integrated Design of the Structure

Integrated design of organizational structure means that organizational architect approaches organizational structuring simultaneously in two directions: top-down and bottom-up. In other words, there are two-way designs that can operate simultaneously and are interrelated. Direction starting from the top of the organization, which is based on its strategy, should be applied only to the highest organizational levels (in the highly hierarchical organizations in no more than three to four levels). On the other hand, the direction that begins at the operational level, as a starting point focuses on the main activities within the process and climb until it meets with the lowest level that is designed from the opposite direction. Here, for the reason of simplicity, we will first explain the design process that is focused from the top of the organization and moving toward its bottom, and then the process of the opposite orientation, although in practice, they are inextricably linked and are usually designed at the same time.

When the strategy is formulated (at least roughly), it can be accessed to macro-organizational structure design, i.e. the highest levels in the organization. Design in this phase begins with the previous definition of basic, supporting and accompanying processes. In other words, the processes that directly produce the final product or service are emphasized and separated from the processes that support the first ones. On the basis of the obtained schemes of macro-processes, the decision is made whether certain processes should be set “out of the house”, i.e. outsourced, or to be developed within the organization. Going forward, the focus is on core processes.

Work on organizational design is continued by defining the parameter of specialization and then departmentalization. Only then follows the determination of coordination mechanisms (the parameter of coordination) and the degree of centralization of decision making (the parameter of decentralization).

The division of labor, i.e. specialization is a direct reflection of a defined strategy. It is known that there are only three basic criteria to be implemented to the division of labor in organizations: based on inputs (functional classification), based on outputs (products/services) and the user (territory/market) [1]. In a functional division of labor, division of the total work is done according to the nature of activities that constitute the job, and then related activities are grouped in the same component of the organizational structure. In a division based on products/services, activities are divided in regard to output, and then grouped those that contribute to the

### **Designing Organizational Structure: an Integrated Approach**

---

same output. In the division of labor based on territory/market, activities are divided and grouped in relation to the output users [17]. Selection of the criteria for the division of labor is based on the nature of the strategy. If the organization decides to implement the strategy of cost minimization in order to achieve price advantage in the market, the main criterion for division of labor would be functional, because it maximizes the efficiency of the system due to the high level of specialization of employees and eliminating duplication of work. In a situation when an organization chooses a strategy of significant differentiation or diversification of their output, the primary criterion for division of labor is based on output, because it increases the responsiveness of the system to the needs of each individual output, which increases the effectiveness of the entire organization. Division of labor based on users as a priority criterion should be implemented when the strategy is based on marketing focus, because this increases the effectiveness of the organization due to the increased responsiveness to the specific needs of each marketing segment.

During the process of selecting the criteria of division of labor, it is necessary to be very careful, because the chosen criteria affect the organizational model, and this choice affects the many features of the organization as a system. First of all, the organizational structure affects the type of information that will be collected from the environment, as well as how and where information will be disseminated. It also affects the manner in which this information will be processed and implemented in the new strategic solutions. In other words, strategy affects the structure and structure affects the strategy. It is a two-way causal relationship.

The choice of the primary criteria of division of labor does not mean that this completes the process of defining the parameter of specialization. It is necessary to implement this process at lower levels of the organizational structure within the organizational components that were obtained from the primary division of labor. Other criteria of division of labor can be represented at lower levels of the structure, which is mostly the case in practice. However, at one level is usually applied only one criterion of division of labor. Otherwise, a multidimensional model of organizational structure is formed. These models are quite difficult to design and implement, and here we have no intention to deal with them.

Upon completion of forming the main outlines of the organization, the organizational architect can begin linking the organizational units in a meaningful whole and assign them an appropriate level of authority and responsibility. By choosing the appropriate coordination mechanisms, both horizontal (lateral) and vertical, the architect establishes functional

relationships among organizational units. Vertical connection is established through the decomposition of strategies and objectives, or through management by objectives, and through mechanisms of formal authority that are based on the reward system. Horizontal connections in the organization can be established by three main mechanisms: informal groups, formal groups and an integrator [7]. Establishment of coordination mechanisms gives life to the organization, thus greatly affecting its dynamics of functioning.

Decentralization (transfer of rights and responsibilities for certain decisions within the same level of organizational structure or by lowering them to lower levels of hierarchy) is crucial for determining the distance between the position where decision-making is done and the position where actual work takes place (which would be the operational level). This directly affects the degree of stiffness and responsiveness of the organization. This parameter is very dependent on the criteria of division of labor: for the criteria of functional division of labor, which enables the increase of the efficiency of the system, the general recommendation is to go to a higher level of centralization, while for the remaining two criteria, in which the effectiveness of the system takes place, it is needed to implement a higher level of decentralization.

This, in short, explains the top-down approach to designing the highest-levels of organizational structure. Let's see what happens simultaneously with the process design that runs from the bottom up, and is based on processes in the operational part of the organization.

In the previous section, we have explained how the basic process is decomposed into the individual activities. At this level, now we are beginning the process of organizational design. Here, the design of the organization also begins with the division of labor, but at the micro-level (it starts from the basic activities) and the allocation of tasks arising from activities that comprise one job position, according to the criteria of their connection in the work process and their similarity in technology implementation. The number of different activities assigned to one job, and the frequency with which these activities are repetitive, define the scope of the job. After this, depth of each job is determined, which is the vertical division of labor (the extent to which the employee is allowed to plan its work and monitor the results). It is now possible to determine the complexity of the work (the knowledge, experience, ability, work skills, education and management skills), responsibility (for the process, security, facilities and information), the efforts (mental and physical) and working conditions (environment and working time). On the basis of this analysis, workplace



### **Designing Organizational Structure: an Integrated Approach**

---

systematization is compiled, which remains the basis for designing reward system for each specific position in the organization.

In the following step, departmentalization is performed. First, it is designed by establishing the optimal number of team members who will be responsible for an entire process (in the domain of its boundaries). It is necessary to strive for self-managing teams, but this depends on many factors (education of employees, the degree of their motivation, attitude toward the liberal style of management, cultural backgrounds, etc.). Self-managing teams do not need direct supervisors, thus reducing one level of hierarchy. These teams should be multidisciplinary, i.e. formed by employees who would otherwise have worked in a variety of functional areas. The organizational architect should be careful so he/she would avoid any unnecessary work duplication. Certain employees can work in multiple teams, if the work load allows it.

Having defined the key parameters of the first line of the hierarchy, the process of designing organizational structure is taken to the next upper level. The design process is repeated, except that now attention is paid to linking the teams into one entity that will be in charge for the overall business operations. The procedure continues until the architect reach those levels that are defined by opposite-oriented design process.

When it comes to overlapping of two opposite-oriented processes, the process of designing the structure is at the very end. In this phase, it is necessary to check the alignment of all derived organizational components. The recommendation is to start checking from the top of the organization, and to follow the work breakdown structure of the total work process and linking the derived parts, until the operational level is reached. Then, the process is repeated, only in the opposite direction (from bottom to top). Now we are following the process of aggregation or conjunctions of activities into the complete process.

### **Conclusion**

The process of designing the organization is very complex. We cannot say that it is a series of logical steps leading to a pre-defined objective, which will always be the same if these steps are taken. Organizational design is more than that. In this process, there is a logical sequence of decisions and actions to follow. However, this process includes intuition by taking into account the dynamic environment that determines the conditions and limitations in which a solution can be sought, and analysis of internal factors specific to each organization. What further complicates this process is the fact that there are no perfect solutions for the organizational

design. This process requires continuous measurement of positive and negative characteristics of each choice and compromise in this regard. The aim is to achieve an approximation of the optimal design for the existing conditions at the given time. The problem is that the effects of this process usually have a delayed effect, so the results can be evaluated only after the lapse of a certain time period. It should also be noted that the results of this process affects not only the design phase, but also the implementation phase of the obtained solutions. Practice has shown that even the best organizational design solutions can result in negative consequences if the implementation phase fails.

In contemporary environment, the survival is not guaranteed to anyone. Development of organizations in the discontinuous environment is directly dependent on the ability of their leaders to, among other things, understand the concept of organizational design and gain knowledge that will enable them to design effective structures with the aim of maximum utilization of their own core competencies and achieving the best possible competitive position in markets served. Leaders in these organizations need to understand that the organizational design is a continuous process, because the dynamics of the environment imposes frequent changes in strategies and work processes, which implicitly affect the changes in the organizational structure.

Attention should be paid to one more thing. As a permanent organizational (re)design becomes a necessity due to the environment, which is characterized by a steady increase in turbulence, the construction of flexible organizational structures that are able to effectively and efficiently adapt to all relevant changes in the environment [23, 24] becomes the main goal of organizational architects. Such structures will be the new competitive weapon in times to come. Because of this, organizational architects will have to focus on achieving high degree of flexibility as a basic characteristic of the organizational structure of the future.

### References

1. Ackoff, R., Magidson, J, Addison, H., (2006), *Idealized Design: Creating an Organization's Future*, Wharton School Publishing, Pennsylvania.
2. Ansoff, I., Antoniou, P. (2005), *The Secrets of Strategic Management: The Ansoffian Approach*, The Ansoff Institute
3. Child, J. (1975), Managerial and Organizational Factors Associated with Company Performance – Part II. A Contingency Analysis, *Journal of Management Studies*, 12: 12-27
4. Cvijanović, J. (1992), *Projektovanje organizacije*, Ekonomski institut, Beograd.

### **Designing Organizational Structure: an Integrated Approach**

---

5. Drejer, A. (2006), Strategic Innovation: A New Perspective on Strategic Management, *Handbook of Business Strategy*, Vol. 7, Issue 1: 143-147
6. Fayol, H. (1930), *General and Industrial Administration*, Pitman, New York.
7. Galbraith, J.R. (1993), *Competing with Flexible Lateral Organizations*, Addison-Wesley, Reading, Massachusetts.
8. Galbraith, J.R. (1973), *Designing Complex Organizations*, Addison-Wesley, Reading, Massachusetts.
9. Galbraith, J.R. (1995), *Designing Organizations: An Executive Briefing on Strategy, Structure, and Process*, Jossey Bass, San Francisco.
10. Galbraith J.R., Downey D., Kates A. (2002), *Designing Dynamic Organizations: A Hands-On Guide for Leaders at All Levels*, AMACOM, New York.
11. Gulick, L., Urwick, L., eds. (1937), *Papers on the Science of Administration*, Institute of Public Administration, New York.
12. Helmrich, K., Janbrink, S., Edenback., B. (1997), *Nova švedska organizaciona filozofija: GTO*, Prometej, Novi Sad.
13. Kai, S. A. (1999), *Organizational Change and Information Technology*, Doctoral dissertation, Göteborg University, Göteborg.
14. McCormack, K. P., Johnson, W. C. (2001), *Business Process Orientation – Gaining the E-business Competitive Advantage*, St. Lucie Press, Florida.
15. Miles, R., Snow, C. (2003), *Organizational Strategy, Structure, and Process*, Stanford University Press, California.
16. Mintzberg, H. (1979), *The Structuring of Organizations*, Prentice Hall, Englewood Cliffs.
17. Oliver Wyman – Delta Organization & Leadership (1998), *Strategic Organization Design: An Integrated Approach*, Delta Organization & Leadership LLC, New York.
18. Radojević, Z., Stefanović, I., Velimirović, D. (2009), Procesni pristup kao osnov implementacije BSC-a i poboljšanja organizacionih performansi, *Management*, vol. 14, br. 52, str. 41-48.
19. Radović, M., Karapandžić, S. (2005), *Inženjering procesa*, Fakultet organizacionih nauka, Beograd.
20. Rentzhog, O. (2000), *Temelji preduzeća sutrašnjice: procesima usmerena poslovna filozofija*, Prometej, Novi Sad.
21. Sheldon, O. (1926), *The Philosophy of Management*, Routledge, New York.
22. Stefanović, I. (2007), *Fleksibilne organizacione strukture*, Magistarska teza, Fakultet organizacionih nauka, Beograd.
23. Stefanović, I. (2006), *Organizovanje za izazove turbulentnog okruženja: fleksibilne organizacione strukture*, Promene u organizaciji i menadžmentu – izazovi evropskih integracija: zbornik apstrakata, X Međunarodni simpozijum SymOrg 2006, Zlatibor, 7-10. jun 2006.
24. Stefanović, I. (2008), *Osnovne karakteristike fleksibilnih organizacionih struktura*, Zbornik apstrakata, IV Majska konferencija o stratezijskom menadžmentu, Zaječar, 7-8. jun 2008.

**DIZAJNIRANJE ORGANIZACIONE STRUKTURE: INTEGRALNI PRISTUP**

**Rezime:** Brojni pokazatelji ukazuju da će se trend povećanja turbulentnosti okruženja nastaviti i u budućnosti, što znači da će organizacije biti prinuđene da češće menjaju svoje strategije, procese i strukture, usled čega će proces organizacionog dizajna sve više dobijati na značaju. U ovom radu je predstavljen proces organizacionog dizajna koji se bazira na integralnom pristupu organizaciji. To znači da se dizajniranju organizacije istovremeno pristupa iz dva smera: odozgo na dole i odozdo na gore. Na ovaj način se prilikom dizajniranja strukture uvažavaju zahtevi strategije, ali i potrebe procesa unutar organizacije.

**Ključne reči:** Organizacioni dizajn, organizacija, strategija, proces, okruženje.

### Guideline for writing papers for ECONOMIC THEMES:

1. The paper should be introduced at at least one author's sheet (30 000 characters without spaces). Page format: Page Setup - Margins - top, bottom - 5cm, left, right - 4cm, header, footer - 4.3cm; Paper size: A4; Font: Times New Roman (Latin) - 11pt. Spacing: Paragraph - Indents and spacing: Indentation: Left, Right 0; Special: First line 1.27; Spacing: Before 6pt, After 0pt; Line spacing: Single; Tables and formulas write in program *Word for Windows*, and for pictures use *Corel Draw*.
2. Paper should have: Title in English (bold, all caps, 12pt, center); Scientific degree, author's name (bold, small caps, 12pt, center); Footnote: institution, e-mail (10pt); Abstract and key words in English (italic, 10pt); Subtitles (bold, small caps, 11 pt, center); Introduction, elaboration and conclusion (11pt); References (10pt); Title, abstract and key words in Serbian (10pt).
3. References should be cited in the text as follows: (Stanković, Đukić 2009, 41) - page number if necessary.  
References should not be listed in the footnotes.  
The list of references should be arranged in alphabetical order by the author's last name at the end of the paper (10pt), according to following model:

**Books, monographs:** Author's last name, first name (year of publication) *Title*. Place: Publisher.

E.g. Stanković, Lj., Đukić, S. (2009) *Marketing*. Niš: Ekonomski fakultet.

**Articles in scientific journals:** Author's last name, first name (year of publication) Article title. *Journal title*, Vol (issue): Page numbers.

E.g. Keller, K. (1993) Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing*, 57(1): 1-22.

Papers in Proceedings: Author's last name, first name (year of publication) Paper title. *Conference title*: Page number(s). Place of meeting, Organizer.

E.g. Jerger, J., Knogler, K. (2009) The economic and financial crisis in South-Eastern Europe. *Proceedings of the Scientific Conference The Challenges of the World Economic Crisis*: 1-11. Niš: Faculty of Economics.

**Internet sources:** Title, website address (access date). E.g. Narodna banka Srbije, [www.nbs.rs](http://www.nbs.rs) (15.02.2011.)

**ALL PAPERS WILL BE REVIEWED. ONLY PAPERS WHICH HAVE TWO POSITIVE REVIEWS WILL BE PUBLISHED.**