

# MANAGING THROUGH BUDGETS FOR INCREASING FIRMS' PERFORMANCES IN A DYNAMIC AND GLOBALIZED ECONOMY

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**Abstract:** *In a more and more competitive world, with continuous changes and need for adjustment, each firm is seeking for better positioning and better results. In order to obtain them, various techniques are used. The paper presents an integrated approach referring to increasing the firm's efficiency using strategic managerial tools and econometric forecasting, combined with the development of a management by budgets system for the companies, in order to help them achieve their desired results.*

**Key words:** *dynamic economy, change, forecasting, budgets, efficiency, flexibility.*

## 1. Introduction

The multiple challenges that companies need to face more and more these years change the face of both national and global economy.

In an accelerate manner, companies must deal with new information, new technologies, new markets and new competitors, because the organizational environment is changing in all its components (economic, political, technological, cultural, demographical etc.) due to globalization and IT development. The companies have to adjust their expectations, values and behaviours at a faster rate than in the past, because the changes of their environment are exponential.

The uncertainty of the future development is increasing and requires

new approaches in managing companies.

The literature is abundant in studies referring to change in various organizations [1], [2], [8], [9]. According to Beer & Nohria [1], main theories of changes emphasise either the theory E (change is performed in order to create more economic added value to the shareholders), or the theory O (change is done for developing a culture based on transparency and trustiness inside organizations).

While Crawford and Nahmias [3] discussed about the competencies managers needed for managing change, Cheng & Petrovic-Lazarevic [2] and Ford et al [4] presented the main issues related to the resistance to change in various organizations, while Huising [7] clarified the role managers can play as agents of change.

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## 2. Reasons to budget

In the pursuing of their objectives in an increasingly competitive and dynamic economy, companies are using various methods, techniques and tools. Among these tools, budgets are used in order to make the future more predictable.

The reason to budget is not new, but recent studies have indicated that there are multiple reasons and uses of budgets and they are associated with different budgeting characteristics [6].

Fixed budgets are usually used for planning purposes, because figures in them are not modified in response to changes in activity or costs/revenues. Flexible budgets are designed to change as the volume of activity changes, and, generally, they are used for control purposes, but they can also be used for planning when testing the effects of alternative activity levels. Flexible budgets can also be used as a basis for performance appraisal, but taking into account some limitations when managers' performance is evaluated. Nevertheless, if the principles of flexible budgeting are combined with activity-based costing, then activity-based budgeting can be used, mainly for monitoring purposes.

In the case of fast growing companies, or of those facing an uncertain organizational environment, rolling/continuous budgets should be used in order to avoid problems such as data obsolescence or role confusion.

A fast growing company is often confronted with a lack of clear organizational structure and the confusion of roles and responsibilities of management.

Marginson et al. discussed about managers facing uncertainties associated with role ambiguity and demonstrate that managers may respond positively, with more commitment to achieving budgetary

targets, "as budgets offer a source of structure and certainty" [11].

Also, Frow et al. [5] discussed about the attempt to know how uncertainty can be managed for achieving desired results and concluded that this leads to the identification of the organizations as being either 'mechanistic' (in pursuing efficiency) or 'organic' (in pursuing flexibility).

Nowadays, many companies want to be both flexible and efficient, and for them continuous budgeting seems to be the answer.

## 3. Management through budgets – a pharmaceutical case study

In the attempt of developing an empirical framework of managing through budgets in an uncertain environment, we took into consideration various public Romanian companies that are listed at Bucharest Stock Exchange. The reason for our choice is that they are among the largest in Romania and, due to financial regulations, they are among the most visible companies. They are currently publishing their financial statements and future policies for development.

Reopened in 1995, after a break of half a century, BSE is now the main institution that facilitates the trading of securities in Romania and, through its website, became a reliable source of information in the financial domain. Over 80 companies (1<sup>st</sup> and 2<sup>nd</sup> tier) are currently trading on this market. There also exists another OTC market segment (named RASDAQ) where other 3<sup>rd</sup> tier companies (that do not meet the full requirements of BSE) can trade; therefore, a total number of 196 companies are currently trading their securities on BSE.

In the last three years, the most dynamic companies were 1<sup>st</sup> tier companies, which are operating in the domains of energy,

natural resources (extraction, processing and transport of oil and gas), financial and pharmaceutical domains. Some of them are among the biggest and most powerful

companies in Romania (ERSTE, OMV Petrom, Romgaz, Electrica, BRD, Zentiva) and together they hold over 90% of the top 100 market capitalization (see fig. 1).

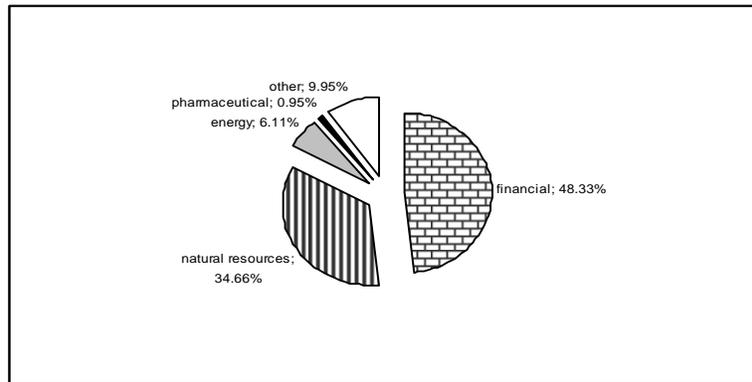


Fig. 1. BSE top 100 market capitalization

For the purpose of our study, we introduced some selection criteria regarding the companies that we studied, e.g. growth rate, existence of net profit, on-line availability of their detailed financial statements for the last 10 years, and the quality and quantity of non-financial information posted on their websites (related to: shareholders structure, products, customers, suppliers, future development plans).

Based on these criteria, we selected the pharmaceutical domain where there are currently three companies that are operating in and listed on BSE.

The framework that we developed supposes, first, the identification of the characteristics of the organizational environment for finding the main factors that can increase the uncertainty of the future development of companies.

A STEEP analysis was conducted and the following characteristics were identified for the pharmaceutical organizational environment:

- *Social and cultural environment (S)*: an increased tendency of ageing of the population and of household consumption

expenditure related to health services and medicine, the population propensity towards being reluctant to consume drugs and taking traditional medicine.

- *Technological environment (T)*: worldwide development of innovation in bio-medicine and genetics, combined with studies related to the safety of medicine and drugs use for human health.
- *Economic environment (E)*: instability of the economy, inelasticity of demand in relation to price, delays (of over 200 days) encountered by pharmaceutical companies in collecting the bills of prescription medicine from their customers (ultimately, state hospitals), huge investments needed in R&D in the pharmaceutical domain.
- *Environmental environment (E)*: increased level of pollution, need for energy reduction.
- *Political and legal environment (P)*: introduction of new legislative acts regarding health, tighter controls for the safety of the individual, protection

of the environment, packaging, patents and the clawback tax.

Also a Porter five forces analysis was performed and the following characteristics emerged:

- *Low level of threat of entry into the domain* due to high barriers of entry, challenging industry and huge start-up investments.
- *Moderate threat of substitutes to the industry's products or services* represented by herbal and natural products.
- *Low bargaining power of buyers of the industry's products or services* because of the large number of buyers.
- *Low bargaining power of suppliers into the industry* because there are numerous suppliers available, both at national and international level.
- *High level of rivalry between competitors in the industry*: the industry is facing a large number of foreign and national players and the tendency is showing an increase in the number of M&A in the domain.

As we presented earlier, the purpose of business development under uncertainty is related to both efficiency and flexibility and rolling budgets are advisable to be used, where the leading role, as in any business, is assigned to the sales budget.

Sales analysis is crucial for assessing the company's position in its industry and also for reflecting their ability to develop activities in a profitable way.

But, under these circumstances, the future value of net sales is not easy to predict and a multiple regression econometric model should be used, and a regression analysis should be conducted, taking into consideration that a statistically significant relationship between the variables has to exist.

Using *Eviews* and based on the STEEP analysis and Porter model presented here, we selected and tested four main drivers of net sales (NS) for one of the pharmaceutical companies in the domain:

- rate of population ageing ( $x_1$ )
- household consumption expenditure related to medicine products ( $x_2$ )
- real GDP per capita ( $x_3$ )
- poverty rate or poverty threshold ( $x_4$ ).

We assumed that the future net sales level for year "t" could be predicted using the following econometric model:

$$NS_t = a_0 + a_1x_{1t} + a_2x_{2t} + a_3x_{3t} + a_4x_{4t} \quad (1)$$

After testing the coefficients significance, those that were not significant conducted to the elimination of their corresponding factor from the model. Only  $a_3$  proved to be not significant and, consequently,  $x_3$  was eliminated. Under these restrictions, the future level of net sales for year "t" could be rewritten through equation (2):

$$NS'_t = a'_0 + a'_1x_{1t} + a'_2x_{2t} + a'_4x_{4t} \quad (2)$$

The Akaike and Schwartz criterion was used for quality comparisons between model equations (1) and (2), and the results favoured the latter one.

Also, R-Squared, Fischer and Standard Error Test were performed for testing the soundness of the multiple-regression model. For eliminating the auto-correlation of the residuals from the model, the statistical test Durbin-Watson has been performed and the results presented in table 1 show that the net sales are plausibly explained through the selected exogenous variables. Finally, for the selected company, net sales can be forecasted using the following equation:

$$NS_t = 6.617 + 2.719x_{1t} + 0.611x_{2t} + 0.972x_{4t} \quad (3)$$

The next step of the framework consists in introducing the forecasted figures for net sales (NS<sub>i</sub>) in setting up both the sales budget and the master budget and, as the conditions of the external environment

change, the net sales level should be adjusted to follow the trend, depending on the evolution of previously determined drivers.

*Multiple-regression analysis*

Table 1

Dependent Variable: NET SALES  
Method: Least Squares  
Sample: 2004 - 2013

| Variable  | Coefficient | Std. Error            | t-Statistic | Prob.  |
|---|-------------|-----------------------|-------------|--------|
| A0  | 6.617404    | 9.456405              | -2.065530   | 0.0486 |
| AGE_RATE_POPULATION (X1)<br>HOUSEHOLD_CONSUMPTION<br>(X2) | 2.719397    | 0.085548              | 6.025783    | 0.0000 |
| POVERTY_RATE (X4)   | 0.611346    | 2.141947              | 2.577603    | 0.0157 |
|   | 0.972449    | 0.027113              | -2.200045   | 0.0365 |
| R-squared   | 0.964073    | Mean dependent var    | 17.75497    |        |
| Adjusted R-squared  | 0.958751    | S.D. dependent var    | 0.543852    |        |
| S.E. of regression  | 0.054197    | Akaike info criterion | -2.849771   |        |
| Sum squared resid   | 0.079308    | Schwarz criterion     | -2.680750   |        |
| Log likelihood  | 50.59634    | Hannan-Quinn criter.  | -2.773857   |        |
| F-statistic   | 325.3211    | Durbin-Watson stat    | 1.844799    |        |
| Prob(F-statistic)   | 0.000000    |                       |             |        |

#### 4. Conclusions

Using the master budget, along with the STEEP and Porter's model, managers will have the key drivers for projecting the future strategic objectives of their companies.

However, a more volatile business environment forces them to reconsider their periodic results, and also the means of achieving them.

In our paper, we found that companies in the pharmaceutical domain that are operating in Romania will continue to be confronted with various issues related to economic, politic and social environment changes in the future, but also with technological and environmental challenges.

The future profits that they will want to obtain (for being efficient) and the liquidity they must pursue (for remaining flexible) must be linked not only to the above presented key factors, but also to others that are emerging, such as the level of the investment made in recent years by various investors for the development of a sound chain of private hospitals, increased lack of qualified physicians or the persistence of the economic crisis that led more and more people to poverty.

Frequent and unpredictable local fiscal changes, along with international political changes in Romania's neighbourhood are making the economic environment more uncertain and oblige managers to take into considerations all these aspects and introduce new exogenous variables when

forecasting future sales and future development of their businesses.

In this respect, we opined that the management through continuous budgets offers managers a tool that could be used for improving both efficiency and flexibility under uncertainty, because of the soundness of the forecasted sales and the characteristics of such budgets.

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