

THE INFLUENCE OF BALANCED SCORECARD IMPLEMENTATION ON VALUE OF OIL COMPANY – THE CASE OF MOBIL CORPORATION

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Abstract:

This paper presents the analysis of the impact of application of Balanced Scorecard in Mobil United States Marketing and Refining (USM&R) on the value of oil company - Mobil Corporation. By verifying the hypothesis of the creators of the concept of Balanced Scorecard, R. Kaplan and D. Norton, on the occurrence of a significant improvement in profitability of Mobil USM & R, one of the divisions of Mobil Corporation, as a direct effect of the implementation of Balanced Scorecard, the author analyzes the results achieved by this division and by the entire enterprise, checking whether the implementation of the Balanced Scorecard had in fact a positive effect on profitability and value of the entire enterprise.

Keywords: balanced scorecard, value, managerial accountancy, Mobil Corporation

1. Introduction

Balanced Scorecard (BSC) is a tool used in strategic managerial accounting, which task is to measure, evaluate and communicate achievements to translate a strategy into action (Kaplan, Norton, 2002, pp. 29-41), and it is frequently defined as an instrument of value creation (Szychta, 2007). By analyzing the definition above, it can be seen that the Balanced Scorecard combines a number of extremely important, from the enterprise point of view, tasks that were traditionally regarded as separate areas of enterprise internal operations. Such a significant complexity of this tool and its integrating function require a lot of effort and professional knowledge to have it implemented correctly. As a result of proper implementation of Balanced Scorecard it is postulated, inter alia by the creators of the concept, that it causes a significant improvement of profitability and as a result it contributes to increase of value of company.

Since the 1990, when the concept of Balanced Scorecard was presented for the first time, as a result of research project Measuring the effectiveness of organizations led by the future, conducted by Nolan Norton Institute, KPMG's research unit (Kaplan, Norton, 2002), the number of its implementations has been rising until 2008 (Rigby, 2011). The research conducted by Bain and Company has shown that in 2007 66% of tested companies implemented Balanced Scorecard (Rigby, 2007). Despite the decline in the number of implementations recorded in the years 2009-2010, Balanced Scorecard was still the sixth most popular management tool used by executives in 2010 (Rigby, 2011).

As the concept of Balanced Scorecard became more popular, numerous studies have been conducted on the matter of its real effectiveness (eg Otley, 1999, Norreklit, 2003, Davis and Albright, 2004). The lack of clear evidence of Balanced Scorecard effectiveness led De Gausser, Mooraj and Oyon (2009, p. 94) to the need of conducting research which was about to answer the question Does the Balanced Scorecard add value to the companies which implemented it. By analyzing numerous measures of organizational performance, such as management evaluation, cost/benefits, integration and autonomy, they build a model based on answers from 76 companies that implemented Balanced Scorecard, which led them to a conclusion that in general implementation of Balanced Scorecard contributes positively on organization performance (De Gausser, Mooraj, Oyon, 2009, p. 116). Despite the fact, that mentioned research seem to clear the problem of lack of evidence of positive influence of Balanced Scorecard on the value of companies, to have a more significant answer to this problem there is a serious need of conducting numerous case studies analyzing non-aggregated results of implementations.

In this research author tried to find out how did the implementation of Balanced Scorecard influence the

effectiveness and as a result the value of Mobil Corporation in long-term perspective. The case of Mobil Corporation is more important because the process of implementation of Balanced Scorecard in Mobil USM&R, one of the most important divisions of Mobil Corporation, was precisely described by R. Kaplan and D. Norton (Kaplan, Norton 2001). The fact that founders of concept implemented it in Mobil Corporation is a guarantee that the implementation process was coherent and complied with the theory. Also, the research conducted by Kaplan and Norton, based on analysis of profitability and return on capital in Mobil USM&R in the years 1993-1998 has proven occurrence of positive influence of implementation (Kaplan, Norton, 2001). However that type of research, based on absolute numbers does not present the real performance of company on the market and surely can not be extrapolated to the effect on the value of the company.

By analyzing the process of implementation of Balanced Scorecard in Mobil USM&R, with assumption that the results of Mobil USM&R have strong influence on the results of whole company (the assumption is based on the structure of Mobil Corporation and the fact that the contribution of Mobil USM&R results is highly significant for the results of the whole company), by analyzing the results of Mobil USM&R and Mobil Corporation in the years 1991-2011 (also after the merger with Exxon), and by accounting the prices of oil on the American market, the author has tested if in case of Mobil Corporation the implementation of Balanced Scorecard has a positive influence on its value.

2. The design and implementation of balanced scorecard in Mobil USM&R

2.1. The circumstances of the implementation of Balanced Scorecard in Mobil USM&R

In 1992, the Mobil USM&R, a division of Mobil Corporation, held a leading position among the companies supplying petroleum products in North America (Kaplan, Norton, 1996). Although the division has significant market power, at the end of 1992 showed a loss of net profit. Mobil USM&R division in 1992 showed a profit from sale of fuel only in the rate of 0.2 USD per gallon, while in the same period the industry average was 2.2 USD per gallon (Kaplan, Norton, 1996).

A significant decrease in profit, in compare to the previous years and to the industry average has become a reason for the company to seek for new methods of efficiency improvement. By taking under consideration high degree of bureaucratization of division, decreasing efficiency and problems in defining the specific objectives, strategic changes were made, involving the functional organization of the division. The results of this operation were positive, but not significant enough to stop company from seeking for other ways to improve. From the first months of 1994 the process of implementation of Balanced Scorecard in the Mobil USM & R has begun.

2.2. Strategy

The market for petroleum products in North America in the years 1993-1994 was characterized by a well-developed competition within the sector. In the U.S. alone, there functioned simultaneously thirteen companies involved in oil extraction and sales of products manufactured from it. Growing demand for fuel and dynamic development of competition were significant impediment to the formulation of a simple strategy.

The process of formulating the strategy was launched in January 1994. It was conducted by a specially formed team which, with participation of D. Norton, created a list of basic issues affecting the strategy (Kaplan, Norton, 1996). The result of this process was to develop a strategy clear enough to be translated into action and allowing to get the best financial results. In 1994, while most companies in the oil industry, focused solely on

production processes optimization and cost reduction, Mobil gained a new strategy assuming (Kaplan, Norton 2001):

- a) cost reduction and increase of productivity within the entire value chain,
- b) generating higher sales of products and services in the premium segment.

Thus formulated strategy included the markings of a modern market strategy. The will to focus on cost reduction and productivity growth within the entire value chain shows that the company concentration on improvement of the efficiency was not limited only to internal processes. Focusing on the premium segment in that period was also accurate strategic move. The subsequent years have shown that concentration of company's activities on increasing the value delivered to customers, can raise profitability across the enterprise. In conjunction with such a developed strategy, strategic targets and measures were developed within each perspective, compiled in the order characteristic for the industrial enterprises - from a financial perspective, through customer perspective and internal business perspective, finally to innovation and learning perspective.

2.3. BSC implementation process and its results

The Balanced Scorecard has been completely implemented in Mobil USM&R in 1995. The implementation process was supported by information campaign conducted among all employees, with use of brochures containing simplified information on the objectives and expected outcomes of implementation. Under the assumptions of the Balanced Scorecard, the entire division focused on efforts to fulfill the assumptions set out in the perspectives of the card.

Analysis of the process of developing the Balanced Scorecard in Mobil USM & R, its design and implementation processes, shows that the implementation was entirely consistent with the concept of R. Kaplan and D. Norton. The mere fact of extensive publicity about the implementation shows that it can serve as a model example of Balanced Scorecard implementation. As it was mentioned before, research conducted by the creators of the concept, based on the results of Mobil USM & R in 1993-1998, showed that during this period the financial performance of division, its profitability and return on capital employed improved significantly.

The fundamental problem, which solution was not indicated by the results of those studies, is the extent to which the implementation of Balanced Scorecard has affected the results of Mobil USM&R, and to what extent these results were dependent on market trends, so independent to the organizational changes in the company.

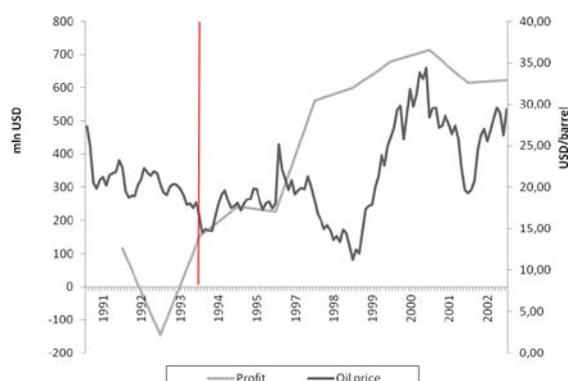
Additionally, in light of widespread attention of all stakeholders of the enterprise to its value and its ability to generate profit when making decisions important for the company, that raises a question about the impact that the Balanced Scorecard has applied in the process of value based management. The case of Mobil USM&R, because of the moment of implementation of the Balanced Scorecard and its circumstances, makes it possible to analyze its effect in the long term.

3. Analysis of the impact of balanced scorecard on financial performance of Mobil USM&R in 1991-2002

One of the main reasons for the implementation of Balanced Scorecard in the Mobil USM & R was a strong decrease in the net financial result in the years 1991-1992. At the end of 1991 the division recorded a profit of 116 millions USD, while at the end of 1992 suffered a loss of 145 millions USD. The management of division acknowledged that the main cause of deterioration of the results was the failure of its operation due to bad organizing, lack of unified policies and inadequate control of changes of the results of individual processes and their causes.

Oil companies are a specific group of enterprises whose results depend directly on the situation on the oil market. The main business of analyzed division is refining crude oil and sale of

products arising as a result thereof. Taking into account that analyzed division is a part of the company which extract crude oil in quantities that meet its own refining needs, it can be concluded that in this case the raw material supplier policy impact on financial results is negligible. It should be also noticed that for a company functioning on a highly competitive market, the market price of its basic raw material has a significant impact on the financial results of a particular company, because it determines the action of competition, while providing a basis to develop a margin which is the main source of profit. In such situation, in order to properly assess the effects of the implementation of Balanced Scorecard in the oil company, it seems necessary to compare the results of the analyzed division with the oil prices. Graph 1 show the financial result of Mobil USM & R (in annual terms), along with oil prices recorded on the U.S. market (on a monthly basis) in 1991-2002.



Graph 1. Summary of financial results of Mobil USM&R and oil prices on the U.S. market in the years 1991 - 2002. Source: data set.

The analysis of the impact of the Balanced Scorecard on the financial results achieved by Mobil USM&R conducted by R. Kaplan and D. Norton pointed out a significant improvement in profitability of the division as a direct result of the implementation of the Balanced Scorecard (Kaplan, Norton, 2001, p. 60-62). The analysis of changes of the financial result of Mobil USM&R shows that the reversal of adverse trends occurred before the start of the process of preparing and implementing of Balanced Scorecard (indicated on the graph by the red line). Since the end of 1993, the division recorded a profit of 115 millions USD. Additionally it may be noticed, that in the years 1991-1997 and 1998 - 2002 there was a significant trend of convergence of the division profit and changes of oil prices. That situation raises the question to what extent the improvement of profitability was due to changes of oil prices, and to what extent was it the result of preparing process and implementation of the Balanced Scorecard.

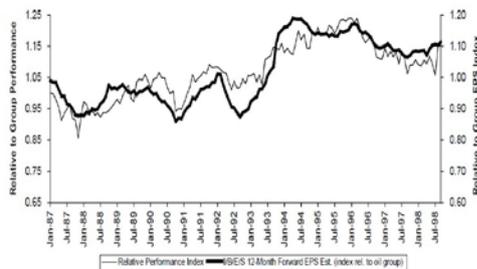
According to the author, the analysis of the effectiveness of the implementation of the Balanced Scorecard based only on the changes of level of profit or level-dependent rates of profit (for example ROCE), cannot reliably demonstrate the actual impact of implementation on the company's performance. Inability to prove this effect makes it also impossible to determine, whether implementation of the Balanced Scorecard has boosted the company's value and effectiveness of value management, which to some extent are reflected in the ability to generate profit, as one of the cornerstones of the evaluation of value. In such circumstances it is necessary to examine how the implementation of the Balanced Scorecard has changed the assessment of company value among the investors.

4. Analysis of the impact of implementation of balanced scorecard in Mobil USM&R on the market value of Mobil Corporation

4.1. Analysis of the value based on the EPS and PI indicators

Mobil USM&R was a division which significantly affected the results of the Mobil Corporation. This thesis is supported by the fact, that within the structure of Mobil Corporation on the U.S. market, Mobil USM&R was responsible for generating profits, while the other divisions, such as the United States Mobil Exploration and Production, mainly generated costs. By 1999, that is until the merger with Exxon Corporation, the results of Mobil USM&R division had a major impact on the assessment of the value of the corporation carried out by the investors.

The valuation made by investors may be based on different grounds. The simplest method of assessing value is to analyze stock prices, but due to the often speculative transactions on the capital market, value of such an assessment may entail considerable risk of error, especially in the short term period. Much more reliable method of assessing value of the company is to analyze the earnings per share (EPS) and to conduct analysis of the performance based on the performance index (PI) in relation to other companies in the sector. The results of such analysis conducted by J.P. Mahedy, Y. Kak and C. Miller for Mobil Corporation in the years 1987 - 1998 are presented in the Graph 2.

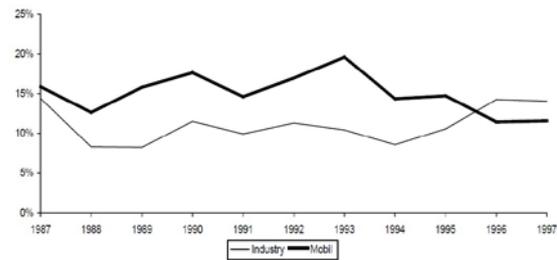


Graph 2. Profits and productivity of Mobil Corporation in relation to the oil sector companies in the U.S. in 1987 - 1998. Source: J.P. Mahedy, Y. Kak, C. Miller, Black Book - Mobil: Will Pegazus Rise to New Heights, Preceding, 1998, p. 10.

By analyzing the situation presented in the graph above, it may be noticed, that after the commencement of the implementation of the Balanced Scorecard in the Mobil USM&R there has marked an increase in indicators of EPS and PI for the sector, but that increase did not constitute a trend reversal, but it was only the continuation of the upward trend apparent since the second half of 1992. After increasing of the level of indicators in the first years after the implementation, and after stabilization in the years 1995-1996, a downward trend revealed, resulting in the approach of the company to the average level of the sector. This situation shows that changes in the company management (including implementation of the Balanced Scorecard) did not produce sustained growth of the entire enterprise value (relative to the sector) and its positive impact can only be seen in the short term. Having presented further in this work the results of analysis of the impact of oil prices on the value of the company, it should be noticed that the results of improvement of profitability of the company during the implementation of BSC (discussed above), could have been caused mainly by the situation on the oil market.

4.2. The analysis based on the ROA value indicator

One of the key financial targets which was to be put into the Balanced Scorecard of Mobil USM&R was to increase the efficient usage of assets. For a proper assessment of the effectiveness of this objective it is necessary to analyze the changes of the rate of return on assets (ROA) for the entire oil sector. This analysis is extremely important, because many investors on the capital market use ROA to assess value of the company. The level of ROA for the Mobil Corporation and the oil sector in the years 1987-1997 is illustrated in the Graph 3.



Graph 3. The level of ROA of Mobil Corporation in relation to the oil sector companies in the U.S. in the years 1987 - 1997.

Source: J.P. Mahedy, Y. Kak, C. Miller, Black Book - Mobil: Will Pegazus Rise to New Heights, Preceding, 1998, p. 10.

As shown in the graph above, the rate of return on assets of Mobil Corporation, after the commencement of the process of developing the Balanced Scorecard in the Mobil USM&R in 1994 showed a slight upward trend, then after the first year of using the Balanced Scorecard, dropped significantly to the level lower than the average for the sector. Although this decline affected the entire enterprise, not just USM&R division in which BSC was implemented, it should be noted that the assessment of the market value of the company must be based on data from the entire organization. To assess the positive impact of the Balanced Scorecard on the value of the company using ROA, it is necessary to take note of stabilization or increase in the level of this indicator. In the years 1996-1997 the level of ROA fell below the average of the sector, which has not been recorded since 1987. Basing on these data, it appears that the implementation of Balanced Scorecard in the Mobil USM&R did not affect the growth of the Mobil Corporation in the analyzed period, or that the impact of that implementation was insufficient to cover the return on assets declines in the other divisions.

5. Analysis of long-term possible impact of the balanced scorecard in Mobil USM&R on the market value of Exxon Mobil Corporation

In 1999 the biggest merger in the history of the U.S. market took place, which resulted in the combination of Exxon Corporation and Mobil Corporation, which since then became Exxon Mobil Corporation. The fact that the merger took place five years after the implementation of the Balanced Scorecard in the Mobil USM&R makes it impossible to carry out a full, long-term analysis of the impact that application of the Balanced Scorecard in Mobil USM&R on the value of Mobil Corporation based on market valuation of the company. However, given the fact that after 1999 the impact of the performance of Mobil USM&R (after the merger the division of Exxon Mobil Corporation) remained significant enough to assess the value of Exxon Mobil Corporation, it is possible to examine the extent of influence of efficiency improvement of the division on the assessment of value taken by the investors.

According to the author, the most effective way to explore this connection is to determine what part of the company's market value, from the investors perspective, could be generated as a result of efforts to improve the efficiency of operation (which could partly be also a result of the implementation of Balanced Scorecard in Mobil USM&R), what can be partially achieved by excluding the impact of changes of oil prices on the U.S. market on the market value of the company. The starting point for analysis is the statement of changes in closing prices of shares of Exxon Mobil Corporation, with oil prices in the U.S. market, as illustrated in the Graph 4.



Graph 4. Statement of the Exxon Mobil company's closing prices on the NYSE and oil prices in the years 1991 - 2011. Source: Own calculations based on Reuters quotes:

<http://www.reuters.com/finance/stocks/chart?symbol=XOM.N>,
and the prices of crude oil:

<http://research.stlouisfed.org/fred2/date/OILPRICE.txt>.

As shown in the graph above, during almost the whole considered period, changes in the market assessment of the value of the company coincided with the changes of oil prices. Analysis based on the correlation coefficient shows that in the years 1991 - 2011 variability of shares of Exxon Mobil Corporation was in 88.6% due to the changes in oil price. This means that only 11.4% of the variability in value of shares was due to other factors, including changes of organizational nature, affecting the value of the company. This study shows that the company's value assessment conducted by investors (based mainly on the analysis of the ability to generate profit) market price of raw material, is highly significant.

The real impact of the implementation of the Balanced Scorecard in Mobil USM&R on the market value of Exxon Mobil Corporation can be assessed only in the years 2000 - 2010, after the merger of Exxon Mobil Corporation. Analysis of the degree of correlation of the company's market value and oil prices on the U.S. market during analyzed period show that the market value depended in 85.6% on changes of oil price, which means that in the market assessment, only 14.4% of the company's value changes could have been caused by other factors.

6. Conclusion

Considering multiplicity of factors being taken into account by investors in the process of determination of the value of company, when in the long term direct impact of oil price on the market price is visible and having described the circumstances of a transformation of the capital, finding a significant impact of implementation of Balanced Scorecard in one of the largest profit-generating division of the biggest oil company which is Mobil USM&R on value of entire company, is not possible with using commonly available data.

Given the results of the short-term based analysis of the level of generated profit in Mobil USM&R, values of EPS, PI and ROA in the Mobil Corporation and the long-term analysis of the value of the Exxon Mobil Corporation, it is not possible to conclude that the implementation of Balanced Scorecard in the Mobil USM&R significantly influenced the effectiveness of division and the value of company. Significant changes in performance and consequently in the value of the company were revealed only during compilation and the first years of use of Balanced Scorecard. After that period results generated by the whole company returned to average levels, compared with the sector.

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