THE IMPORTANCE OF IMPLEMENTING THE BALANCED SCORECARD AS A TOOL OF ECONOMIC MANAGEMENT OF A METALLURGICAL ENTERPRISE

SUŠKOVÁ Andrea, BUCHTOVÁ Jana

VSB - Technical University of Ostrava, Ostrava, Czech Republic, EU, jana.buchtova@vsb.cz

Abstract

The contribution deals with the influence of non-financial indicators in the economic and financial management in a metallurgical enterprise. By means of practical modelling, it compares traditional statements with materials based on financial indicators interconnected with the Balanced Scorecard method. The objective of this work is to demonstrate the suitability of perception of non-financial indicators as an important tool for planning, controlling, analyses and managerial decision making.

Keywords: Balanced Scorecard, financial indicator, economic management, analysis

1. INTRODUCTION

The modern concept of economic and financial management of metallurgical enterprises represents an essential competitive advantage in the contemporary, highly dynamic economic and competitive reality. This method of management focuses primarily on improving strategic management, streamlining internal processes, increasing the flexibility of managerial decision making, improvement of operational management, improving the quality of workforce. [6]

Managerial accounting provides information on the current performance of an enterprise with emphasis on the future linked to strong cash flow generation, but also on the value of the enterprise at the time. Much of this data comes from financial accounting and these systems are mutually related. [3] This fact provides considerable space for the application of economic management methods enhancing the effectiveness of managerial decisions.

1.1. Financial indicators

Keeping accounts and presenting final accounts, an integral part of which are standardized financial statements - a balance sheet and a profit and loss statement - is a legislative duty of each enterprise. A compilation of statements is a cash flow statement, mandatory for audited accounting units. These statements are used as input data for financial analyses. The financial indicators may be absolute (outputs of financial statements), differential (e.g. net working capital) and ratio (debt analysis, property and financial structures). Other indicators that use e.g. added value, number of employees etc. can also be used in the financial analysis. It is always necessary to consider the interaction between the values of individual analyses and to see the situation as a complex. [3] An example may be a situation where an enterprise has a satisfactory debt of 40 %, but has 60 % of the assets in receivables, which could indicate a possible problematic ability to settle obligations.

For good management, we must evaluate the whole financial situation of the enterprise, therefore one of the financial indicator systems can be used - parallel or pyramidal system of indicators. Due to a gradual, ever more detailed decomposition of the indicator, not only the interactions and influences of the indicators can be revealed, but also causes and possible pitfalls of the enterprise's financial health. Synthetic indicators, often known as bankruptcy and credibility models, are used for the overall assessment of the situation and early detection of potential threats. The bankruptcy models include e.g. the Z-score (Altman model), IN indexes or the Taffler model. The group of credibility models includes the Tamari model or the Kralick quickest. The **Table 1** shows significant factors affecting the return on equity index (ROE).

Table 1 Factors affecting ROE

Indicator	Indicator characteristics	Effect ROE	In oder for ROE to grow, the indicator must
NP / EBT	share of net profit in profit before tax reflects the level of taxation	reducing the tax burden has a positive effect on ROE	↗
ROA = EBIT / A	return on total capital of the company (production force)	growth in ROA positively affects ROE	↗
IE / (BL + OBL)	interest pecuniary external resources foreign funds	reduction in interest rates has a positive effect on ROE	↘
(BL + BO) / (FF + other liabilities)	pecuniary external resources foreign funds in foreign funds and other liabilities	lower share of FF in FF cheapens financing	↘
EC / A	share of VK in liabilities (financial leverage)	financial leverage may affect ROE positively and negatively	↗ ↘

Explanations: NP - net profit, EBT - earnings before taxes, EBIT - earnings before interest and taxes A - assets, IE - interest expense, BL - bank loans, BO - bonds, FF - foreign funds, EC - equity capital [2]

The effect of indebtedness on the return on equity is represented by two of the above mentioned factors - the interest gain reduction and financial leverage, these factors acting opposingly. Increasing the debt, which will be reflected in the growth of the financial leverage indicator, has a positive effect on the return on equity. The joint effect of the examined factors (interest gain reduction and financial leverage) can be expressed by a multiplier of the equity capital. If it is greater than 1 than increasing the share of foreign funds has a positive effect on the return on equity. [2]

This example demonstrates the weaknesses of the information value of financial statements and financial analyses. Despite all the usefulness of the information provided, these analytical methods have certain limitations. The problematic issues of traditional financial analyses include in particular:

- the influence of seasonal factors and incidents on the economic result,
- neglect of risks, opportunity costs and the future benefits of business activities,
- strong dependence of traditional methods and techniques of financial analysis on accounting data.

A financial analysis may accomplish its task of assessing an enterprise's financial health for the prediction of its future development, if its methods and techniques are implemented into systems of management and enterprise performance management. These steps can eliminate the weaknesses and one-sided view of the financial performance of an enterprise.

1.2. Non-financial indicators

One of the key strategic goals of a metallurgical enterprise, as well as other industrial companies, is to maximize profits and the competitive advantage. The modern concept of economic business management integrates all the elements of the production systems as efficiently as possible in order to achieve these goals.

Therefore it monitors selected indicators that optimize business processes and are the driving forces and indicators. These indicators include in particular:

- Customer satisfaction,
- Timeliness of deliveries,
- The highest degree of product quality,
- Effective use of costs,
- Elimination of scrap rates,
- High labor productivity,
- Employee growth and motivation.

These and other non-financial indicators assist in the enforcement of business strategy, streamline and specify reporting and finally accelerate and simplify the planning process.

1.3. Balanced Scorecard

The basis of the concept was the idea that the performance appraisal must take into account various relevant parts of a business activity, such as finances, customers or processes. Experience has shown that when selecting targets appropriately, the performance can be brought into accord with the strategy through Balanced Scorecard. That is - balanced consideration of perspectives in deriving strategic objectives leads to a balanced system of objectives - in the **Fig. 1**.

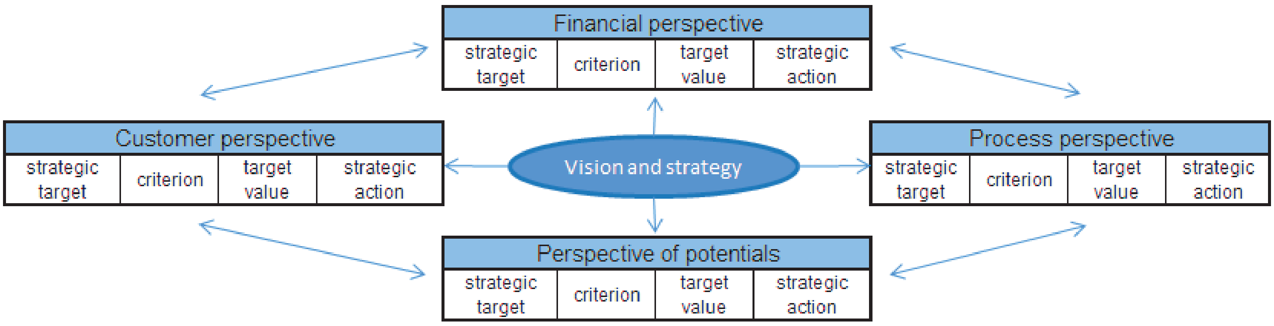


Fig. 1 Balanced Scorecard

The strategic objectives are based on the vision and strategy of the enterprise and thus become strategically important objectives that ultimately decide the overall success of the enterprise. [5] If these objectives are to be planned and monitored, it is necessary to assign adequate financial and non-financial measures to them, as well as target and actual values of these measures. Achieving the objectives is than provided by strategic actions which are assigned to the individual objectives. Each of the strategic actions has its specified deadline, budget and specific responsible person. One key element of this method is the development and documentation of cause-effect relations between the strategic objectives, so called strategic maps. [1]

2. CASE STUDY

A successful implementation of this management method supported by its information foundation using business intelligence tools represents a significant competitive advantage and a way to successful fulfilment of business ambitions and future prosperity. [4] The application of the Balanced Scorecard model into the strategic objectives of an enterprise is demonstrated in this study on the results of an unnamed metallurgical enterprise and therefore the information may not correspond to reality. The source material for the financial indicators are standard statements - a balance sheet, a generic cost analysis and selected data from the profit and loss statement from 2 consecutive accounting periods.

Table 2 Revenues and expenses of the enterprise (in thousands CZK) - the first accounting period.

Balance sheet	
ASSETS	
Assets in total	369,769
Fixed assets	317,040
Current assets	48,723
Other assets	4,006
LIABILITIES	
Liabilities in total	369,769
Owned capital	107,121
basic capital	134
capital reserves	-20
funds	13
ER past years	64,815
ER current year	42,179
Foreign funds	259,325
reserves	0
fixed liabilities	925
short-term bonds	258,400
Other liabilities	3,323

TOTAL COSTS	
Sold goods	165,261
Material and energy consumption	307,254
Services	97,179
Wage costs	30,421
Remuneration to members	1,768
Insurance costs	11,127
Social costs	718
Taxes and fees	71
Depreciation TA and IA	4,937
Other operating costs	62,869
Other financial costs	21,461
COSTS in total	703,066
Selected indicators	
Sales in total	678,812
Added value	109,118
Material intensity	69.46
ER before tax	85,512
Labor productivity	2,631.05

SERVICES	
Maintenance and repairs	2,067
Travel cost	4,019
Entertainment expenses	278
Postal charges	416
Leasing	3,262
Hire costs	3,185
Phones and communications	1,066
Prepayment	527
Translation and interpretation	173
Commission	11,241
Transport insurance	1,847
Transportation expense	17,773
Cooperation	30,714
Certification costs	2,360
Consulting service	372
Marketing services	3,797
Servicing	1,561
Other services	12,521

The **Table 2** illustrates potential pitfalls and negative development of some of the enterprise's indicators were quantified. The enterprise has relatively high debt levels, but also relatively painlessly builds necessary profits to cover potential interest on loans. The liquidity indicators are low and do not reach required values, especially the current liquidity indicates a potential risk. The turnaround of liabilities is higher than the turnaround of receivables which can predict problems with the reimbursement of liabilities in the long term.

Table 3 Ratio indicators of the financial analysis

Ratio indicator		value	Ratio indicator		value
Profitability	ROS (Return on sales) (%)	6.32	**Indebtedness**	Total indebtedness (%)	70.13
	ROA (Return on total capital)(%)	23.00		Indebtedness rate (%)	2.42
	ROE (Return on owned capital) (%)	39.4		Interest coverage (%)	64.96
Turnaround	Turnover of assets (days)	1.84	**Liquidity**	Current liquidity (1,5-2,5)	1.23
	Turnover of receivables (days)	1.05		Contingency liquidity (1-1,5)	1.51
	Turnover of liabilities (days)	1.64		Cash liquidity (0,2-0,5)	0.06

The conclusions of the financial analysis have only informative value and may reduce the business potential in the future - in the **Table 3**. On the basis of the elaborated financial analysis, which evaluated the ratio indicators of the enterprise, the financial model was interconnected with the Balanced Scorecard method. The enterprise management determined the strategic objectives and timeframes for achieving them and specified the most effective steps to achieve the objectives. A Balanced Scorecard (see **Table 4**) for the following period has been created on the basis of all the conclusions and targeted discussions.

An integral part of the implementation of the Balanced Scorecard is an effective involvement of all divisions and employees in achieving the objectives and accepted strategic actions by the individual departments. Another important step was the integration of the Balanced Scorecard into the enterprise reporting and monitoring of the strategy implementation, so called BSC-reporting. [1] It consists of 4 parts - summary, strengths and weaknesses analysis, actions and detailed description of the measures. This integration process will be subjected to further analysis, practical examination and subsequent formation.

Table 4 Balanced Scorecard

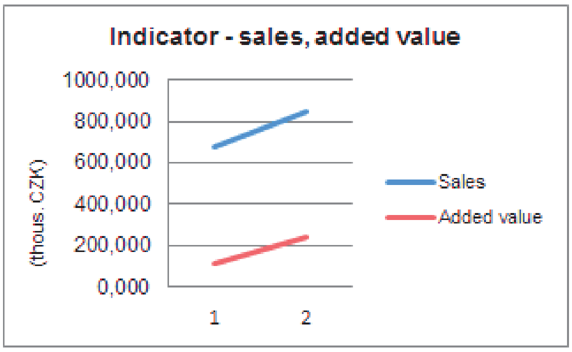
	Strategic target	Criterion	Target value	Strategic action
FINANCES	Ensure growing level of revenues	ROA	30 %	Accurate costing of orders and profitability
FINANCES	Reduction in other costs	share in services in total	4 %	Evaluate importance of individual services and compare prices of other suppliers
FINANCES	Reduction in cooperation costs	labor productivity, share in all-in services	30 %	Analyze the extent of cooperation and consider retraining of workers and labor productivity
CUSTOMER	More intensive customer care	sales growth	20 %	Offer of flexible service and extended warranty
CUSTOMER	Stricter quality control	reduction in scrap rates	20 %	creating new concept of quality control
PROCESSES	Quality performance and consistency of IT systems	comprehensive statement	T: 15.3.	Interconnection between production and economic systems
PROCESSES	Effective production planning and feedback control		T: 31.3.	creating a planning department and IT support
POTENTIAL	Employee retraining	reduction in cooperation costs	30 %	Investments to increase employees' qualification for activities previously provided in cooperation
POTENTIAL	Removing downtime	time demands of processes, labour productivity	10 %	Thorough planning of procedural acts and feedback control

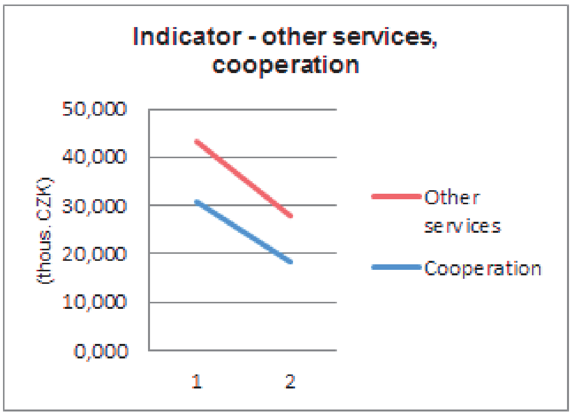
The following table (**Table 5**) and chart of selected indicators show a positive effect of the implementation of the Balanced Scorecard and clear strategic objectives consisting primarily in the revenue growth, reduction of cooperation costs and increase in labor productivity. Creation of the concept of quality control is still in progress and the results of this objective will be evident in the following period. Achieving this objective will be reflected not only in the dimension of customers, but also in the financial dimension, namely in the growth in revenues and sales and increase in profitability.

In the second monitored period, the target values of the Balanced Scorecard were achieved. There was a decrease in other costs in the total amount and also a decrease in the share of other costs in total costs by 29 % and a decrease in cooperation costs by 40 %. Decrease in scrap rates was achieved by creating a more effective concept of quality control and establishing a damage commission. The total capital profitability indicator increased by 7.6 % and total sales by over 25 %.

Table 5 Selected indicators - 2nd accounting period (thousands CZK)

Indicator	1	2
Sales	678,812	851,586
Added value	109,118	240,296
Labour productivity	2,631	2,877
Cooperation	30,714	18,303
Other services	12,521	9,417
Total costs	703,066	748,627
ROA (%)	23.00	30.6
Turnaround of liabilities (%)	1.05	1.34
Turnaround of receivables (%)	1.64	1.26
Current liquidity (days)	1.23	1.1





3. CONCLUSION

The application of the Balanced Scorecard has helped discover the weaknesses in the creation of strategic objectives of the enterprise and managerial decision making. The integration of value-oriented measures of management into the business controlling system and interconnection with the financial indicators of business performance anchors the value management system into the planning and controlling process and significantly helps achieve the enterprise's strategic objectives. „Strategies are more than revenue and growth targets". Thanks to the Balanced Scorecard, this vision of a successful management control is gaining increasing popularity and practical application in many prosperous industrial enterprises.

ACKNOWLEDGEMENTS

The work was supported by the specific university research of Ministry of Education, Youth and Sports of the Czech Republic No. SP2015/112.

REFERENCES

[1] HORVÁTH & PARTNERS. Balanced Scorecard v praxi. Profess Consulting: Praha, 2004.

[2] KNÁPKOVÁ A., PAVELKOVÁ D. Finanční analýza. Grada Publishing: Praha, 2010.

[3] PETŘÍK T. Ekonomické a finanční řízení firmy. Grada Publishin: Praha, 2009.

[4] Balanced scorecard - jak dosáhnout podnikových ambicí [online]. System online [cit. 1. 1. 2015] avalible from http://www.systemonline.cz/business-intelligence/balanced-scorecard-jak-dosahnout-podnikovych-ambici.htm

[5] POPESKO B. Moderní metody řízení nákladů. Grada Publishing: Praha, 2009.

[6] STEINÖCKER R. Strategický controlling. Babtext: Praha, 1992.