

Evaluating Investment Profitability and Business Controlling Methods

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Abstract: If we ask economists or controlling managers, then they will define the business controlling developments on quite different ways, but it is easily observable that each of the business controlling projects have goals which are mainly improving the effectiveness of the business by reducing negative outcomes and retaining the benefits.

So the business controlling development is essential in companies' life. It is a very important management task to focus on business controlling developments and invest in such kind of projects. This field has more and more come into prominence during the economic crisis started in 2008, because several companies were able to survive only with the help of new and innovative controlling functions.

The research tries to prove that the performance of the company is strongly influenced by the controlling developments and by the profitability planning from which the organization can gain benefit within a short term. This hypothesis was strengthened by surveys too conducted among managers in multinational firms.

Keywords: business controlling, profitability

Journal of Economic Literature (JEL) code: M16, M21

1 Introduction

The objective of this research is to examine important evaluation processes regarding business performance and investment profitability. The aim of the study is not to examine all of the performance evaluation methods but to focus on the most frequently used ones and to show their utilization in the daily business life. The research tries to show the advantages and disadvantages of this methods and impel small and medium enterprises to use them improving their business planning and controlling functions, while decreasing the risk of bankruptcy.

It is generally known that technical progress and the human capital plays a very important role in the long term growth and the wealth of the industries. The

business controlling and its development have a major impact in the life of the companies. Therefore many economists researched the effectiveness of the business performance indicators and the effects of the controlling innovation processes. There are a lot of empirical and theoretical studies available in this topic.

The controlling innovation field has more and more come into prominence during the economic crisis started in 2008, because a lot of companies were able to survive only with the help of new and innovative controlling functions. Innovations - including controlling developments - can lead companies to achieve sustainable advantages (Vermeulen, 2004) and also represent a key factor of economic growth (Cheng and Tao, 1999).

2 Theory

Nowadays the business controlling systems are critical elements in the decision-making process. A well structured and innovative controlling information system is a sustainable competitive advantage (Barney, 1991).

But it has been recognized in the previous centuries as well that the innovation and the continuous development are the critical sources of economic growth and of improvements in social welfare.

One of the key thinker of capitalism Joseph Schumpeter (Austrian economist, 1883-1950) said a great fact about the innovation, as he called about the “creative destruction”. “The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumer goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates. ... “ (Schumpeter, 1942).

If a company performs incremental developments and innovations, then it will help in differentiating it from its competitors. This offers a constant round of useful improvements to the consumers, to existing products and to processes and services.

Recognizing the way in which innovation supports economic growth, all around the world many governments encourage investments in research and development projects by allowing companies to claim tax credits for the amount spent on it. It is particularly for technology-driven innovations and developments due to they have felt that the technology innovations are the engine of the economic growth (World Economic Forum, 2012).

Furthermore the organizational culture has also an important effect on management control systems (Henri, 2006). It can help companies to achieve the planned goals. In case of innovative policies, when leaders change the internal

rules of the company, they can modify the attitude and the behavior of the employees. If managers perform it in the right way, then it will definitely lead to an improvement of the firm performance (Rosenthal and Masarech, 2003).

The management decisions should be made on unbiased information. The cost accounting, the financial planning and the return on investment checking should be common tools in decision-making processes. Although, management accounting-, or management reporting systems are not broadly used in small and medium enterprises (Choe, 1996). The lack of these tools increases the risk of bankruptcy, especially in case of startup companies with inexperienced managers.

3 Findings concerning business controlling development and investment profitability analysis

As each of the business development projects have goals which are mainly improving the quality, or increasing the effectiveness, raising the productivity, or reducing the response time, etc.

The main goal of the business controlling development and the investment planning analysis is also to improve the effectiveness of the business by reducing negative outcomes and retaining the benefits.

Based on the economists' opinion, we can state that the overall function of controlling innovation is to reduce the imperfections of the financial market (Piazza, 2010).

So the business controlling development helps us filling the gaps in the products or services available to consumers (U.S. Department of the Treasury, 2009). For example when we are launching a new secure web based payment method, then we are performing a financial and controlling development due to we are simplifying the payment method by reducing the necessary time of the procedure while we are keeping the safety requirements.

In my research I also try to strengthen the following hypotheses with the help of a conducted survey among 38 middle managers and 5 top managers. Based on the received explanation I try answer their reasons as well.

- Hypothesis 1:

The business controlling development and controlling innovation really worth. Their efforts will return on the business performance and it will decrease the chance of bankruptcy.

- Hypothesis 2:

One of the most widely used profitability analysis is the return on investment analysis.

- Hypothesis 3:

Most of the managers prefer to utilize a wider group of simple and easy to interpret performance indicators instead of using one or two complex measures.

But before evaluating the hypotheses let me show an overview about several widely used business controlling methods.

4 Methodology of business performance and investment profitability measurement

Before making a complex development project it is always proposed to perform several evaluations about the expected profitability of the planned project. It is a very important to avoid such development projects which produce loss for the company.

There are several quite useful economic evaluations of investments and company performance measures which can help us in the decision making.

This publication does not intend to present all of the important scientific methods, it just tries to grab and show some of the important indicators.

4.1. Net Present Value (NPV)

The Net Present Value evaluation is an effective method of economic evaluation of investments. This measure shows the difference of the benefits and the costs while considering the discounted values of them.

4.1.1. Calculation of NPV

Net Present Value = Present value of all cash benefits - Present value of all the cash outlays

$$NPV = B - C$$

Where "B" and "C" are discounted summaries of benefits and costs.

$$B = \sum_t \frac{b_t}{(1+r)^t} \quad C = \sum_t \frac{c_t}{(1+r)^t}$$

b_t = all benefits in t period

r = discount rate

c_t = costs in t period (including operation costs)

4.1.2. Evaluation of NPV

The evaluation of the Net Present Value is quite simple. If the NPV is greater than zero then the project is acceptable from profitability point of view. The higher NPV values represent the better investment projects.

4.1.3. Criticism of NPV

It is difficult to interpret the results of NPV. The decision makers will not be able to predict the profitability. From a positive NPV value of a certain investment project we are not able to estimate the planned profitability. Will it cause low, average, or high profitability? We only know that in case of comparing projects the higher NPV value will lead to higher profitability, but there is no clear answer to this question (Flanagan et al., 1989). To see a percentage gain relative to the investments, another measures are used (e.g. Profitability Index) as a complement to NPV.

4.2. Profitability Index (PI) (Benefit Cost Ratio)

For instance, considering 1 million EUR initial investment with 1.2 profitability index the project will reach 1.2 million EUR future cash flows on present value. So the project is worth, and the profitability index tells us clearly how much value we receive per EUR invested. In this example, each EUR invested yields 1.2 EUR.

So profitability index tries to make the Net Present Value more meaningful for the management. It is more popular than the Net Present Value because the Profitability Index is easier to understand.

In general, if NPV is positive, the profitability index will be greater than 1. If NPV is negative, the profitability index will be below 1. The calculation of PI and NPV would both lead to the same decision regarding whether to proceed with, or abandon an investment project. Nevertheless the PI will show us how much we can earn or lose on this project.

4.2.1. Calculation of Profitability Index

The profitability index is none other than the ratio of present value of cash inflows (so the benefits) and outflows (so the costs).

$$R = \frac{B}{C}$$

Where “B” and “C” are discounted summaries of benefits and costs.

$$B = \sum_t \frac{b_t}{(1+r)^t} \quad C = \sum_t \frac{c_t}{(1+r)^t}$$

b_t = all benefits in t period

r = discount rate

c_t = costs in t period (including operation costs)

4.2.2. Evaluation of Profitability Index

If the Profitability index is greater than one then the project is acceptable from profitability point of view. The higher values represent the better investment projects.

The great advantage of profitability index is that it provides an objective framework around which discussion, correction and amendment can take place. Its greatest risk is that hard numbers will tend to drive out soft. Care must be taken that roughly quantified or unquantified effects be given their proper weight. Benefit Cost Ratio is a great aid to discussion and decision, but not as the decision itself (Zerbe and Bellas, 2006).

4.3. Internal Rate of Return (IRR)

The net present value (NPV) and the internal rate of return (IRR) are rival methods. IRR often used in capital budgeting making the net present value of all cash flows from a particular project equal to zero.

Internal rate of return (IRR) for an investment is the percentage rate earned on each EUR invested for each investment period. IRR gives an investor the indicator to compare alternative investment projects based on their yield.

So it is commonly used to evaluate the desirability of investment projects. The project with higher IRR, the more desirable.

4.3.1. Calculation of Internal Rate of Return

The IRR can be calculated by setting the Net Present Value (NPV) equation equal to zero and solving this equation for the rate of return (IRR).

$$0 = \sum_{t=0}^n \frac{CF_n}{(1 + IRR)^n} = NPV$$

CF_n = Cash flow in period n

NPV = Net Present Value

4.3.2. Evaluation of Internal Rate of Return

Assuming that all prospective projects require the same amount of investments, the project with the highest IRR would be considered the most favourable and undertaken first.

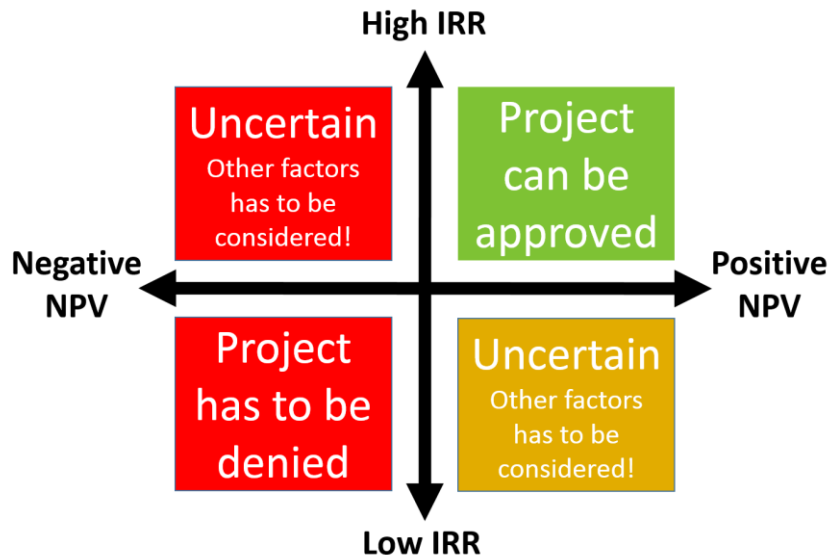


Figure 1

Considering NPV and IRR together

Source: Erményi, 2015

It is very important that only using the IRR in decision making is not enough. We have to consider important key performance indicators together. The simplified figure above shows how IRR can be considered together with NPV when we are evaluating different investment projects. So in case of high IRR and positive NPV values the project can be accepted. The project which is mostly in the top right corner seems to be the best choice.

But it is recommended to evaluate other indicators as well. The higher number of considered key performance indicators gives the better prediction.

4.3.3. Disadvantages of Internal Rate of Return

IRR method should not be used to rate mutually exclusive projects, but only to decide whether a single project is worth investing in. In such cases (assuming no capital constraints) where one project has a higher initial investment than the second mutually exclusive project, the first one may have a lower expected rate of return (IRR), but a higher increase in shareholder's wealth (NPV).

IRR should not be used for comparison of projects with different durations. It can happen that net present value greater in a project with longer duration and lower IRR, than in a similar size project (in terms of total cash flows) but with shorter duration and higher IRR.

IRR overstates the annual equivalent rate of return of an investment projects, which interim cash flows are reinvested at a rate lower than the calculated IRR.

IRR does not consider the cost of capital and may have multiple values in the case of positive cash flows followed by negative ones. In such cases the Modified Internal Rate of Return (MIRR) is recommended, which considers the cost of capital and provides a better indication of project effectiveness.

4.4. Return On Investment (ROI) checking

The possibility of different perceptions of success and failure highlights the importance of ROI for stakeholders and for the management of the corporation (Coombs and Holladay, 2011). Return On Investment is an effective resource yielding concept which gives us a quite helpful performance measure for the evaluation. The ROI does matter to managers and often used as one of the most important key performance indicators.

ROI tries to answer the following questions: Is it really worth? Does it cause any income improvement? Is the innovation concept well balanced?

With the help of the ROI we can evaluate the efficiency of an investment, or we compare the efficiency of a number of different investments. In purely economic terms the ROI is a way of considering profits in relation to capital invested.

4.4.1. Calculation of ROI

$$\text{ROI} = (\text{gain from investment} - \text{cost of investment}) / \text{cost of investment}$$

4.4.2. Evaluation of ROI

ROI provides a snapshot of profitability and it is often compared to expected rates of return on money invested. Normally the ROI is not net present value-adjusted, therefore it is mostly used maximum in two three years period.

Most of the managers (77%) find ROI very useful, which was strengthened by a conducted survey among nearly 200 senior managers (Farris et al., 2010).

The visualization of ROI is very informative, especially when we put it together with the investment related costs and incomes. The interpretation of such kind of graphs are very easy and fast. The manager see at first sight when the investment will show a return. It is the point where ROI curve intersects the X axis.

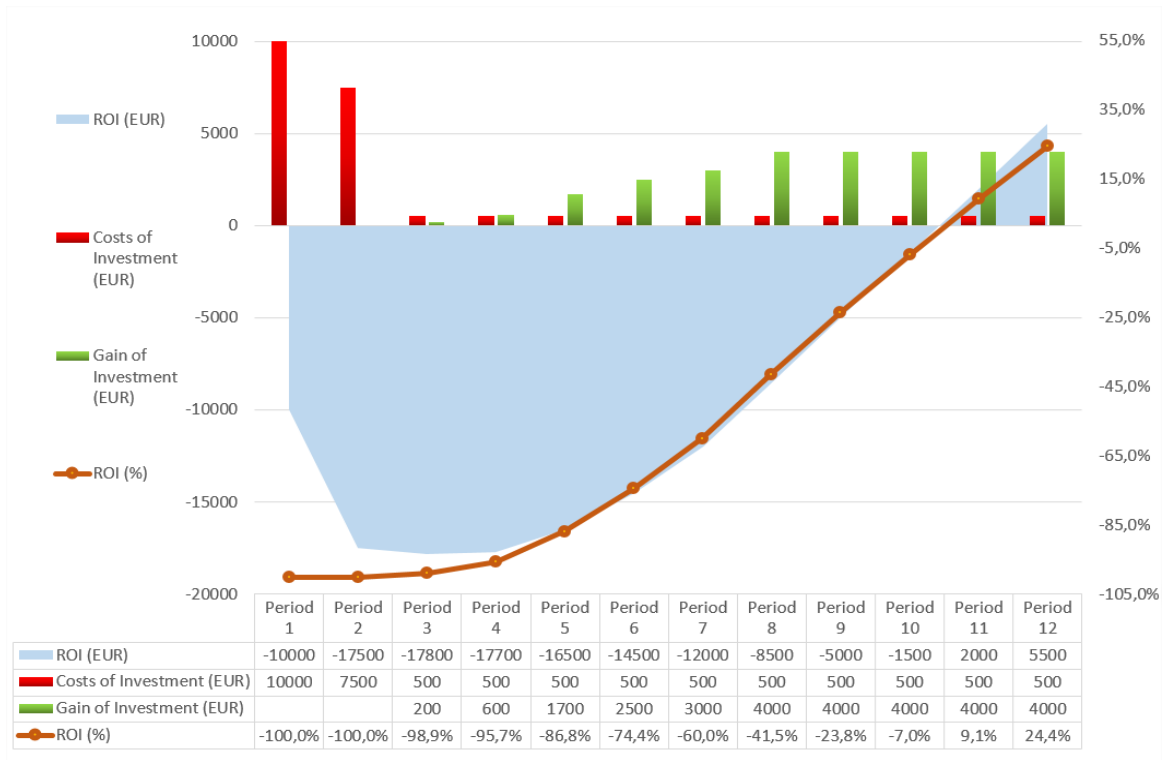


Figure 2
ROI trend analysis
Source: Erményi, 2015

4.4.3. Disadvantages of ROI

ROI - as most of the other indicators - uses expected cash flows. So there are expected costs in the calculation, and the likelihood factor in the returns is not taken into consideration. Therefore in general practice different scenarios are provided, such as best scenario, worst scenario, etc.

4.5. Return On Equity (ROE)

The Return On Equity indicator shows the amount of net income returned as a percentage of shareholders equity. It measures the profitability of a company by revealing how much profit it generates with the money shareholders have invested.

So if the firm takes on too much debt, the cost of debt rises as creditors demand a higher risk premium, and ROE decreases (Randall and Gary, 2006).

4.5.1. Calculation of ROE

$ROE(\%) = \text{Net Income} / \text{Shareholder's Equity}$

4.5.2. Evaluation of ROE

The return on equity ratio is a quite important KPI (Key Performance Indicator) for the shareholders. It does not only provides a measure of the profitability, but also the efficiency of a company. A high, or improving ROE demonstrates that the company uses its investments to grow its business.

Buybacks (when the company repurchases the outstanding shares) will decrease the shareholders equity balance sheet line item, which can throw off the ROE calculation so much, that it can be essentially useless if not misleading when analyzing a company and stock. In that cases there are better metrics including Price per Earnings ratio (P/E), Price to Sales, cash flows and growth rates to use when determining if one should buy a stock (Jones, 2014).

4.6. Debt to Equity Ratio

The Debt to Equity Ratio measures how the organization funds its growth and how effectively it uses the shareholder investments. This financial ratio indicates the relative proportion of shareholders' equity and debt used to finance the assets of the company (Peterson and Fabozzi, 1999).

4.6.1. Calculation of Debt to Equity Ratio

$\text{Debt to Equity Ratio (\%)} = \text{Total liabilities} / \text{Shareholder's equity}$

4.6.2. Evaluation of Debt to Equity Ratio

A high debt to equity ratio shows that the organization achieves growth by accumulating debt.



Figure 3
Debt to Equity trend analysis
Source: Erményi, 2015

Outside investment can greatly increase the ability to generate profits and accelerates business growth, but it can backfire and lead the company to bankrupt. The continuously growing Debt to Equity Ratio can be an alert of that.

4.7. Accounts Receivable Turnover

The Accounts Receivable Turnover indicator shows the rate at which the company collects on outstanding accounts. In case of maintaining a large bill for a customer is something like offering them an interest-free loan. Monitoring this indicator is essential to ensure that accounts receivable is collecting on bills in a timely manner (Albrecht and Stice, 2010).

4.7.1. Calculation of Account Receivable Turnover

Accounts receivable turnover ratio (%) = Net credit sales / Average accounts receivable

4.7.2. Evaluation of Account Receivable Turnover

This indicator can help in understanding the organization's cash flow process.

A high turnover ratio indicates an aggressive collections department, and large proportion of high-quality customers.

Low receivable turnover may represent an inadequate collections function, so a loose, or non existing credit policy. It can also indicate a large proportion of customers having financial difficulties.

Management often interested in the account receivable turnover in days as well, because they want to check the effectiveness of the account receivable collection in days. From such report they can estimate the incoming cash flow delay after sending the invoices to the partners. The collection department is effective in case of low values in days.

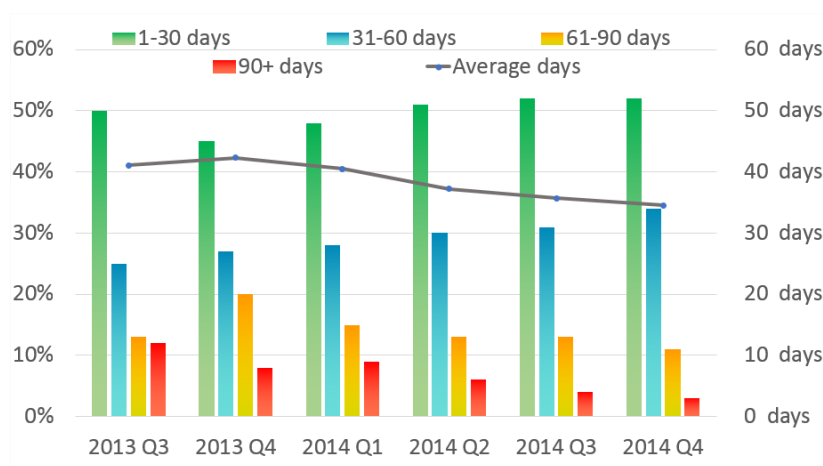


Figure 4
 Management report about account receivable turnover in days with trend line
 Source: Erményi, 2015

5 Evaluation of hypotheses

The evaluation of the hypotheses will be performed with the help of the conducted survey among 43 managers (5 top managers and 38 persons from middle management). All of them has reported that they are in managerial position for more than 5 years, so we can consider them as experienced managers.

- Hypothesis 1:

At the beginning of this article I hypothesized that the business controlling development and controlling innovation really worth and their efforts would return on the business performance and it would decrease the chance of bankruptcy.

Based on the conducted survey we can strengthen that the efforts of the well implemented business controlling developments - in terms of costs - will return

minimum one and half times in a short term, but maximum in middle term. 81,3% of the responders have stated that they normally expect one and half return of the controlling development cost within two years. 74,4% of the answers have stated that the profitability based investment planning halves the chance of bankruptcy.

This hypothesis is also strengthened by many empirical and theoretical studies as well.

- Hypothesis 2:

Hypothesis 2 has stated that one of the most widely used profitability analysis is the return on investment analysis.

We can strengthen this hypothesis based on the responses, because 69,8 % of the responders answered that the most frequently used profitability measurement method is the Return On Investment. 65,1% has also mentioned that they even prepare company level profit and loss analysis plan for the next business year, in which they consider the ROI estimations. 62,8 % of the ROI measure users even prepare ROI fact reports beyond the ROI planning to confirm their correct planning, or to learn from the incorrect estimation. So we can strengthen that ROI is one of the most widely used key performance indicators.

- Hypothesis 3:

3rd hypothesis has stated that most of the managers prefer to utilize a wider group of simple and easy to interpret performance indicators instead of using one or two complex measures.

The responses of the conducted survey strengthen this assumption, due to 83,7 % of the asked managers prefer to utilize a wider group of simple and easy to interpret performance indicators instead of using one or two complex measures. Most of them (72,1%) have emphasized that they need to check these simple and easy to interpret indicators grouped together e.g. on dashboard reports.

6 Conclusions

This paper considers some of the most important business and investment evaluation methods focusing mainly on operative management level.

Based on many empirical and theoretical studies we can state that the well structured business controlling development and controlling innovation really worth. This was strengthened by the conducted survey among 43 managers as

well, showing the importance of the business controlling and investment profitability planning methods.

So it is fundamental to have an effective controlling. Without strict controlling innovations and developments there is no possibility to survive in the intensified competition. Successful controlling services provide an indispensably required support to managers, especially in times of change (Weber, and Nevries, 2011).

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