

The Application of Management Accounting (Controlling) Instruments in Small and Medium Size Enterprises in Nord-Western Croatia

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Abstract — Because of the importance of small and medium size enterprises (SMEs) there is a rising number of studies around the world about them and the difficulties they encounter. One of the problems recognized so far are mistakes that the management makes due to overload of different tasks and lack of expert knowledge in the field of business. These managers need help from management accounting experts. Management accounting field overlaps to a great extent with the field of Controlling in the German-speaking countries. The term Controlling in that sense is also used in Croatia. The tasks of Controlling are being fulfilled through the use of different instruments. The empirical research in this paper has enabled an insight into the use of Controlling instruments in SMEs in the Varazdin County in Croatia.

Keywords - *Management Accounting; Controlling; SMEs, Controlling Instruments*

I. INTRODUCTION

Small and medium size enterprises (SMEs) are recognized around the world as well as in the Republic of Croatia as a very important segment of the economy. Their importance stems from the jobs they create and their contribution to economic growth and creation of innovation. During turbulent economic conditions that presently dominate the businesses as well as having to consider threats coming from the environment also have to overcome internal weaknesses. One of these internal weaknesses can be the management itself i.e. various problems SMEs face are often the result of bad management. The necessary expert help comes from management accounting experts. Management accounting field overlaps to the great extent with the field of Controlling in German-speaking countries¹. Controlling is an English term used to describe, “most tasks that would be considered in international discourse as management accounting tasks” [2]. The term Controlling in that sense is also used in Croatia and will be used in this paper.

The importance of Controlling is recognized by large enterprises in Croatia. Research in 2007 [7] has shown that 93% of respondents (in year 2001 97%) think that Controlling contributes to business efficiency. Therefore, Controlling should also be applied in SMEs and contribute to their efficiency. For example, in a research conducted in Osnabrück-

Emsland region in Germany on SMEs, 95% of respondents confirmed that Controlling is important or very important for the success of the enterprise [8].

In this paper we examine which Controlling instruments are applied in Croatian SMEs and whether the following factors affect the use of Controlling instruments:

- The impact of personal characteristics of managers (education, personal characteristics)
- The impact of external advisors
- The impact of financing (equity, banks)
- The impact of orientation to foreign markets

The survey was conducted in Varazdin County (Nord-western Croatia) from December 2009 to February 2010. The data are processed using the methods of analysis and synthesis, induction and deduction and description. The data are also analyzed by descriptive statistics.

II. CONTROLLING IN SMEs

It frequently happens in SMEs that the entrepreneur has the technical and practical knowledge but he or she lacks the knowledge related to the management. Therefore entrepreneurs often manage by improvisation or based on intuition, which then increases the riskiness of the business. Controlling can help solve this problem. Every SME should adapt its Controlling to its size and organization, but what is common to all SMEs is that the application of Controlling primarily means “ensuring greater transparency of business success and failure, using different instruments offered by Controlling” [7]. The difference between individual firms will be whether there is a controller working in a company or not, or whether there is a department for Controlling or not.

Due to the lack of human and financial resources in SMEs it often happens that no particular person is appointed ‘controller’ and Controlling tasks are mostly performed by company director and/or manager of finance/accounting (if the department exists). For those SMEs that do not have employed controllers, external experts may be the ones who can advise managers and select and use an appropriate set of Controlling instruments that could provide sufficient information for effective management of the enterprise.

¹ Term German-speaking countries refers to Germany, Austria and part of Switzerland.

III. RELATED RESEARCH

There is no research aimed specially at Controlling in SMEs in Croatia, as far as we know it. The situation at the European level is somewhat different. There are many studies on the Controlling practice in SMEs especially in German-speaking countries, which indicates the importance of Controlling for them. The most frequent issues investigated are tasks and instruments of Controlling that companies apply.

According to a study conducted in 2004 in Germany [3] regarding Controlling instruments, it was shown that planning and control instruments are rarely used particularly at smaller companies, and that the use of strategic instruments is generally low. All this was observed within the requirements of Basel II that requires banks to rank their customers. It was assessed whether a company uses appropriate tools that enable effective planning and control, preparation of suitable information for decision making, risk management, insurance of liquidity, etc. All of these are instruments of Controlling, the efficient use of which contributes to a better rating assigned by commercial banks and thus to better loan terms.

Research conducted on SMEs in northwestern Germany in 2006 [9] showed that the most commonly used instruments of Controlling were budgeting, systems of financial indicators and variance analysis. As for planning, 66% of surveyed companies regularly prepared the plans and budgets, and 56% of them applied fixed budgets. In reporting, the highest application was of liquidity ratios, indicators of success and cost indicators.

Deloitte & Touche research [5] shows that controllers in SMEs with annual revenues from € 60 to 600 million still mostly deal with the operative area. All respondents reported to use instruments like variance analysis and reporting, 92% reported to use planning and cost accounting, but only less than 50% of controllers reported to have the responsibility for strategic planning. However, it is positive that the need for orientation to the strategic area is increasingly recognized.

The studies could be summarized that the operational controlling instruments are not applied as much as they ought to be, particularly for smaller companies, and that the use of instruments of strategic controlling is not widespread in all analyzed companies, regardless of their size.

IV. RESEARCH AND ANALYSIS

Research presented in this paper was partly based on the above-mentioned studies but has taken into account the specifics of Croatian SMEs. The research was conducted through an internet survey with mostly closed-end questions to enable better comparison.

A. Hypothesis

The following hypothesis is set out in the paper: More controlling instruments are used by the companies:

- where the owners/managers possess education in business areas,
- where the owners are more open to external experts,
- that frequently have a need for financing from commercial banks,

- that are export-oriented.

B. Selecting a Sample

The study was conducted on SMEs in the Varazdin County, Croatia. To identify companies, the database of the Croatian Chamber of Economy was used.² The selection criterion was the fact that the company submitted an annual financial report for year 2008 as the evidence that the company is active. According to this criterion, there were 63 medium-sized enterprises and 2280 small businesses identified in the Varazdin County. 1359 micro-enterprises were excluded from the sample, because their total annual income is only million Croatian kunas³ and in most cases there was no information about the e-mail address either. A link to the questionnaire was sent to 675 of the remaining 984 SME's who had an active e-mail address (sample consisted of 68.6% of the identified companies). The response rate was 11.85%, as 80 companies in the sample responded to the questionnaire.

C. Education and experience; operating as exporters

First group of questions focused on the education and experience of the respondents. Respondents were mostly highly educated (56 out of 80, or 70%). If we observe the formal business education, 23% of the respondents were of the business profession of varying degrees (secondary school, college or university degree). Several respondents attended various trainings and seminars in the field of business administration after the completion of formal education. The question was open-ended, and the respondents indicated the following courses they attended: course for chartered accountant, seminar for members of supervisory board certification, seminars in the areas of accounting, finance and management, seminar on Controlling, MBA program, seminar for consultants for small businesses, seminars on management quality, seminars related to taxation and tax changes, etc.

With regard to the experience in the field of business, respondents reported 2-3 areas on average (average: 2.65) from the seven areas that were offered. Most respondents indicated the experience in management, marketing and finance.

Respondents were also asked whether the company exports to foreign markets. The answers showed that companies sell their products/services mostly in the domestic market and 39% of them operated as exporters.

D. Financing from commercial banks and planning

Commercial banks are noted as the most important source of external finance for SMEs in the European region [1]. The situation is similar in Croatia, as is evident from the answer to the question about the need for financing from commercial banks. 81% of the surveyed companies needed either short-term or long-term financing or both (Table I).

Banks usually require a series of data on the client to be able to determine his creditworthiness, and one document that is required in most cases is the business plan [6]. We wanted to

² Database available at <http://www1.biznet.hr/HgkWeb/do/advsearch>

³ Around € 130.000 which is insignificant

find out whether banks' request for a business plan is an incentive to implement planning in SMEs.

TABLE I. NEED FOR FINANCING FROM COMMERCIAL BANKS

<i>Do you need bank loans for financing your business?</i>	<i>Number of companies (N=80)</i>	<i>Percentage</i>
Yes, short-term loans	31	39%
Yes, long-term loans	10	12%
Yes, both short- and long-term loans	24	30%
No, we do not need bank loans	15	19%
Total:	80	100%

Most of the surveyed companies (86%) when seeking loans had to present a business plan (Table II). Some companies that use both long term and short term loans, when seeking a long-term loan were supposed to present a business plan, while for a short term loan such a plan was no longer needed.

TABLE II. NEED FOR PRESENTATION OF BUSINESS PLAN TO A BANK

<i>Did you have to present a business plan to your bank?</i>	<i>Number of companies (N=80)</i>	<i>Pct</i>
Yes, when applying for both long- and short-term loan	15	23%
Yes, when applying for long-term loan	17	26%
Yes, when applying for short-term loan	24	37%
No, even though we use/used short-term loan	7	11%
No, even though we use/used long-term loan	2	3%
Total:	65	100%

When asked if there was another situation where business plan should have been presented, one interviewee noted the case of issuing foreign guarantees.

E. Seeking advice from external advisers

Companies that use an external accounting firm for financial accounting purposes (46 or 57%) were asked about their cooperation with the accounting firm, since the external accounting firm may be an important participant in the preparation of reports for management.

The answers confirmed that in most cases the accounting firm performs only assignments that are exclusively related to mandatory financial reporting (Table III). The additional services were mentioned only by a small number of companies.

TABLE III. ROLES OF AN EXTERNAL ACCOUNTING FIRM

<i>The role of external accounting firm</i>	<i>No. of companies (N=46)</i>	<i>Percentage</i>
Advice related to mandatory financial reporting	44	96%
Business advice to management	10	22%
Advice related to financing	10	22%
Advice in crisis situations	9	20%

Although all the companies have good or excellent collaboration with external accounting firms and in 48% of cases this cooperation lasts for more than 7 years, respondents do not sufficiently recognize their potential as external consultants. Beside the employees the external accounting firms are those who know company the best. Most of respondents sometimes seek advice and sometimes use this advice (Table IV), but the advice is predominantly associated with mandatory financial reporting (Table III).

TABLE IV. ADVISING BY EXTERNAL ACCOUNTING SERVICE

<i>How often are you prepared to seek business advice from your external accounting service?</i>	<i>No. of companies (N=46)</i>	<i>Pct</i>
never	1	2%
rarely	11	24%
sometimes	18	39%
often	15	33%
always	1	2%
Total:	46	100%
<i>To what extent do you apply received advice?</i>	<i>No. of companies (N=46)</i>	<i>Pct</i>
never	1	2%
rarely	9	20%
sometimes	18	39%
often	17	37%
always	1	2%
Total:	46	100%

For management purposes manager needs a variety of information. In addition to accounting services, there are also other potential service providers for SMEs that can contribute to a greater use of Controlling instruments and to a better-informed SME manager. The question about the use of advisory services was an open one with 44 respondents (Table V). Frequency of advice obtained is shown in Table VI.

From the responses it is evident that companies are not open to outside advisers. There is high percentage of use of lawyers' (52%) and bankers' advice (39%), while other sources are used to a much lesser extent (only 5% of companies use services of business consultants).

TABLE V. USE OF ADVISING SERVICES

<i>Adviser</i>	<i>No. of companies (N=44)</i>	<i>Pct</i>
Lawyers	23	52%
Bankers	13	30%
Auditors	5	11%
State Agencies	3	7%
Croatian Chamber of Economy	3	7%
Consultants	2	5%
Faculty of Mechanical Engineering	2	5%
Local Authorities	1	2%
Tax advisers	1	2%
Accounting and Finance Associations	1	2%
Ministries	1	2%

TABLE VI. APPLICATION OF RECEIVED ADVICE

To what extent do you apply received advice?	Number	Pct
never	0	0%
rarely	1	2%
sometimes	19	43%
often	21	48%
always	3	7%
Total:	44	100%

F. Instruments of operative and strategic Controlling

The last group of questions focused on the use of specific instruments of operative and strategic Controlling and on the frequency of their use. Often used instruments are financial (89%) and non-financial indicators (81%) and cost accounting systems (Table VII). Strategic controlling instruments such as SWOT analysis and product life cycle analysis are used to a much lesser extent. Competition analysis is the only strategic instrument used by a higher percentage of respondents.

The frequency of use of certain instruments of Controlling is shown in Figure 1. 35% of the respondents constantly use financial ratios; non-financial indicators are constantly used by 29% of the respondents, and cost accounting systems by 28% of respondents. Other instruments are generally used rarely or occasionally.

The transformation process of production factors in the final product or service should be as transparent as possible, which requires well-defined cost types and cost objects (products/services or departments/functions).

TABLE VII. APPLICATION OF SELECTED CONTROLLING INSTRUMENTS

Controlling instrument	Percentage
Financial ratios (liquidity, debt, profitability, ...)	89%
Non-financial indicators (i.e. quality indicators, employee indicators, customer indicators, ...)	81%
Static methods of investment project analysis	22%
Dynamic methods of investment project analysis (IRR, NPV...)	37%
Cost accounting systems	76%
SWOT analysis	38%
Competition analysis/ Benchmarking	62%
Product life-cycle analysis	30%
Balanced scorecard	15%

Through the comparison between costs and benefits, properly allocated costs provide the information about the profitability of certain cost object. Table VIII shows specifics of cost accounting systems that respondents use:

- Whether companies define cost objects to be products/services or departments/functions, since this is a basis for cost allocation
- Whether the cost accumulation method (job or process costing system) is based on full costs (absorption costing) or on variable costs
- When overhead assignment method considered, whether traditional volume-based method is used or a modern activity-based method.

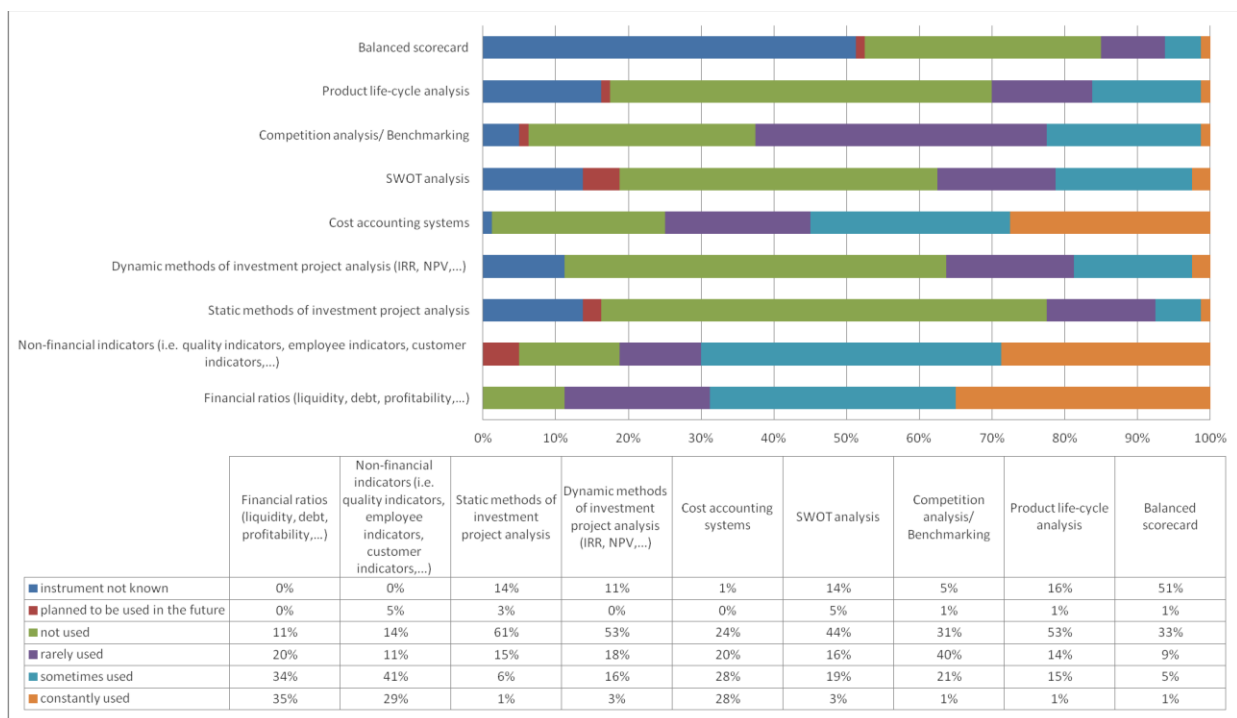


Figure 1. Instruments of operative and strategic Controlling

TABLE VIII. COST ACCOUNTING IN THE COMPANY

<i>Cost accounting</i>	<i>No. of companies N=60</i>	<i>Pct</i>
cost objects are products/services	39	65%
cost objects are departments/functions	31	52%
cost accumulation method (job or process costing system) based on full costs	21	35%
cost accumulation method (job or process costing system) based on variable costs	1	2%
overhead assignment method: ABC method	0	0%
other	0	0%

Of the 60 companies that implement a cost accounting system 65% of them allocate costs by product/service, and 52% by department/function (obviously some respondents combine both concepts). A dominant cost accumulation method is the traditional method based on full costs. The experts agree that for planning and control purposes separation of costs on fixed and variable is necessary, some of them even think that this would be a more appropriate method for financial accounting purposes [4]. However, cost accumulation method based on variable costs, which is a more appropriate system for decision making purposes, is used only by one company. Modern overhead assignment costing systems like Activity-Based Costing are not used at all.

To be able to prepare up-to-date management reports that provide insight into the total costs of the individual cost object, the allocation of indirect costs should be based on standard costs since actual indirect costs are not known until the end of the fiscal year. In practice of investigated companies that is rarely the case (Table IX).

TABLE IX. COST MEASUREMENT SYSTEM USED

<i>Which cost measurement system do you use?</i>	<i>No. of companies (N=60)</i>	<i>Pct</i>
Actual costs, both direct and indirect	49	82%
Actual direct costs, standard indirect costs	10	17%
Standard costs, both direct and indirect	1	2%
Total:	60	100%

G. Testing hypothesis

The use of ten Controlling instruments was explored in dependence on different criteria. The results are shown in Table X. The use of nine of these instruments was explored by questions in the last section of the questionnaire (Figure 1), and the answer about business planning as an instrument of Controlling was given earlier (87% of the companies implement planning formally. Only operative or tactical planning is implemented and not strategic planning).

From Table X the following is clear:

- Businesses where owners/managers have training in business areas (formal education and/or subsequent trainings/seminars are taken into account) use more Controlling instruments.
- Companies where owners are more open to outside experts (use advisory services) use more Controlling instruments.
- Companies that need loans from commercial banks use more Controlling instruments
- Companies that do business in foreign markets as exporters use more Controlling instruments.

TABLE X. DEPENDANCE OF CONTROLLING INSTRUMENTS' USE ON DIFFERENT CRITERIA

<i>Criteria</i>	<i>Description of Criteria</i>	<i>Average number of used instruments (N=10)</i>	<i>Variance</i>	<i>Standard deviation</i>	<i>Median</i>	<i>Mode</i>	<i>Coefficient of variation</i>
1st criteria: education of owner/manager	Owners/managers possess education in business areas	5,81	4,962	2,228	6	5	38,35%
	Owners/managers do not possess education in business areas	4,95	6,321	2,514	5	7	50,79%
2nd criteria: openness towards external experts	Companies that for managing purposes use advice by external advisers/consultants	5,95	5,25	2,29	6	7	38,49%
	Companies that for managing purposes do not use advice by external advisers	4,72	5,46	2,34	4,5	6	49,58%
3rd criteria: need for financing from commercial banks	Companies that do need financing from commercial banks	5,72	4,78	2,19	6	7	38,29%
	Companies that do not need financing from commercial banks	4,13	7,58	2,75	3	2	66,59%
4th criteria: operating as exporter	Companies that do operate at foreign markets as exporters	6,06	3,93	1,98	6,5	7	32,67%
	Companies that do not operate at foreign markets as exporters	4,96	6,42	2,53	5	3	51,01%

Hypothesis is thus confirmed in relation to all four criteria. High coefficients of variation point to non-homogeneity of the properties i.e. to relatively high deviation from the mean, which means that within each of the observed groups there are companies that, compared to the average of the group, use significantly less or significantly more instruments.

V. RECOMMENDATIONS FOR PRACTICAL IMPLEMENTATION IN SMALL AND MEDIUM-SIZED ENTERPRISES BASED ON THE RESEARCH RESULTS

Given the survey results it is possible to formulate some recommendations for SMEs in connection to the application of the Controlling instruments. These instruments could have an impact on the increase of transparency of their operations and thereby on the improvement of efficiency and effectiveness of management, as a function of Controlling.

All SMEs do not use consultants' services for business needs (Table V), and research has shown that companies that use services from external consultants also use more Controlling instruments (Table X). There are many situations where external experts can contribute to the success of business enterprises, and therefore it is recommended to use advisory services by using programs such as Consultant Network Project⁴ in Croatia, which is advantageous for SMEs because it is also subsidized. By this program different consulting services are co-financed; most of these services represent the tasks of Controlling.

A prerequisite for the development of quality business planning and control system is high-quality information and reporting system, a part of which are also cost accounting systems. The costing system used for the purpose of mandatory financial reporting cannot provide quality information on the costs of individual cost objects. Therefore, for internal purposes it is recommended to use a transparent cost accounting system that will allow the creation of timely and detailed reports on the costs, such as the cost system that uses a method of cost accumulation based on the variable costs and measures indirect costs using standard indirect costs. Using such a system allows the creation of high-quality information that would be used in the planning process and in the implementation of contribution margin, as a very useful instrument of Controlling in a variety of decision-making situations.

VI. CONCLUSION

Controlling gives an expert help to management by fulfilling different tasks through the use of various instruments. The importance of Controlling instruments for SMEs is particularly evident in modern business conditions characterized by high dynamics and complexity of enterprise environment. With the use of Controlling instruments SMEs can better adjust to the environment and more easily

overcome internal weaknesses, thus increasing the number of successful companies. Unlike large companies that use very complex instruments of Controlling, SMEs focus on the use of Controlling instruments that increase transparency of business, assuring at the same time that the instruments are not too expensive or too demanding for use.

Two questions were investigated on a sample of SMEs from Nord-western Croatia. Firstly, have the SMEs recognized the importance of the use of operative and strategic Controlling instruments. Secondly, what are the possible factors that affect the use of Controlling instruments. The research shows that operative instruments are used on a lower level than in German-speaking countries and that strategic instruments are used very rarely. Therefore it can be concluded that there is a considerable need for the development of Controlling in Croatian SMEs which could significantly increase their sustainability on the market. Hypothesis about the factors that affect the use of Controlling instruments was confirmed for all four criteria.

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⁴ More on <http://www.hamag.hr/en/consultant-services-co-financing.html>