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The importance of the management accounting system in the decision making process: Empirical evidence from Slovenia

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The paper aims to make a contribution to existing management accounting literature from the perspective of a transition economy by exploring the design of the management accounting system (MAS) in the decision making process within Slovene medium-size and large companies. The study was performed on the basis of a questionnaire which was distributed in 1995, 2001 and 2006, focusing on information received by top and middle management. The findings of our study confirmed the results of present day studies, which claim that MASs in transition countries are not fully integrated into the decision making process. The extent of MASs information provided to top and middle management in the transition process was poor and, moreover, we demonstrate that MASs in Slovenia do not meet the attributes of developed MASs which is derived from the literature. Our findings demonstrate that top management received a broader extent of MAS information on a more frequent basis than did middle management, which is inconsistent with the current literature and best practice.

Key words: Management accounting system, performance measurement, development of management accounting system (MAS).

INTRODUCTION

Providing information needed for decision making belongs to the domain of the management accounting system (MAS), which has to be appropriately developed and organized. The majority of studies deal with the characteristics of MASs in developed market economies, while just few of them were based on economies that are in the transition process or have barely completed it (Haldma and Lääts, 2002). This research is designed to make a contribution to existing management accounting literature from the perspective of a transition economy by exploring the current management accounting practices in Slovenia. Moreover, the study aims to ascertain the changes in MASs over the analyzed period of time, on

the basis of a questionnaire that was distributed in 1995, 2001 and 2006. Prior studies suggest that changes in the environment, such as political, social and economic changes, significantly affect the development of MASs (Vamosi, 2003; Hopper et al., 2009). Slovenia is a representative example of a country where important economic and political changes occurred in the analyzed period. Slovenia shifted from a socialist to a market economy, while undergoing the process of privatization and internationalization. These changes have undoubtedly affected the business and accounting practice within Slovene companies.

Empirical evidence supports a positive association between managers' use of MAS information and performance and provided evidence that those organizations which use the information provided by MAS can effectively face competition in the market and thereby improve performance (Mia and Clarke, 1999). Chenhall

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and Morris (1986), and Mia and Chenhall (1994), state that information of MAS is required for high-quality decisions and for utilization of comparative advantages. That is why we believe that more developed MASs, those that enable users to take “proper” decisions, are crucial also in Slovene companies.

LITERATURE REVIEW

The MAS in transition economies

Despite the fact that management accounting (MA) has been a widely endorsed topic by academic researchers in the last decades, only occasionally these studies do refer to transition economies. The reasons may concern at least two facts. Firstly, most research was done in the field of financial accounting (Hopper et al., 2009) and secondly, MA was less developed. It has received greater attention only in the last decade. At the beginning of this century Haldma and Lääts (2002) discovered that (by analyzing management accounting research done in Eastern and Central Europe on the basis of publications in Management Accounting Research and The European Accounting Review) management accounting was still in its initial stage of development. To date, the situation has not changed significantly. Recent literature review of existing MA in LDC (less developed countries) (Hopper et al., 2009) has demonstrated that MASs in transition economies and LDC are still not highly developed and comparable with developed market economies. However, the authors found that studies in the field of MA in less developed countries are growing, with a broader spread across less developed countries at different development stages. Yet, there is no extensive research in any of these countries (including Europe), apart from China. Islam and Kantor (2005) have investigated the development of quality management accounting practices in China [a review of the literature based on MA practices in selected Asian countries was made also by Sulaiman et al. (2004)]. According to the authors, changes in the way enterprises are run in China have required more management information, and consequently forced the development of MAS. Vamosi (2003) examined selected aspects of MA in a Hungarian company that changed from a command to market economy. His results suggest that changes in accounting practice are to a large extent a consequence of changes in the environment (the calculation practice, cost calculation and estimates were not new and even the technology was the same).

In the last decade, few of the quantitative studies in the field of MA are related to transition companies. Luther and Longden (2001) adapted the contingency approach to the South African economy in a study which focused on companies adapting to structural change and volatility typical for transition economies. Their research endorses some of the prior findings relating to contingent factors

and introduces possible new factors, such as changing stakeholder pressure and shortage of qualified accountants [insufficient training facilities and education were emphasized also in the case of China by Islam and Kantor (2005)], that were previously not emphasized. Management accounting changes in South Africa were studied also by Waweru et al. (2004). They used a contingency theory framework within four retail companies to explore the changes in MA that occurred as a consequence of environmental changes in the South African economy.

Even though the research area of MA within transition economies is gaining brother interest, the design, development, current practice associated with MAS and the effect of MAS information on performance in transition and LDC have not been studied in sufficient detail, especially in the case of Eastern and Western Europe. Alawattage et al. (2007) state that the lack of quantitative research in these countries is closely related with the difficulties of obtaining reliable data; issues are neither well understood nor processed in the prior literature.

Attributes and content of MAS information for decision making

In line with the findings of current literature there is no generally accepted form of MAS that could be integrated universally. The theory of contingency claims that there is no universally appropriate MAS that could be implemented in all types of organizations, thus it has to be adapted to specific circumstances and designed in a flexible manner (Gerdin and Greve, 2004).

However, managerial decisions can be just as good as is the quality of information used for decisions. Several dimensions of information quality have been identified to date (Zmund, 1978; Xu et al., 2003). Many attempts have been made to classify information quality criteria; however, no single definition for information quality has yet been introduced. Undoubtedly, information quality has multiple dimensions (Ballou and Pazer, 1985; Wang and Strong, 1996). Traditionally, it has been described from the perspective of accuracy (Xu et al., 2003). Nowadays data quality goes beyond accuracy. In the accounting literature it is most often characterized by the following attributes: accuracy, consistency, timeliness and completeness (Ballou and Pazer, 1985; Ballou et al., 1993). Gelinas and Dull (2009) define information quality in accounting terms with: timeliness, validity, completeness and accuracy, while Wang and Strong (1996) define information quality within four dimensions. The authors define the following categories: intrinsic information quality, contextual information quality, representational information quality, and accessibility information quality. On the other hand according to Chenhall and Morris (1986), MAS information is going to

be useful if it is characterized by the following attributes: timeliness, scope, aggregation, and integration. Timeliness in their terms refers to the frequency and speed of reporting. If the information provided by MAS is not timely, the management will not be able to use it, as it will not be able to respond to events on time. Information has to be provided on time, when there is still a possibility to influence the decisions. Scope refers to information related to the external environment, non-financial information and information oriented into the future. A traditional MAS was designed firstly to provide information about events within an organization, where the information was above all monetary and where the focus was oriented towards data about historical events. Aggregation refers to the level of data aggregation form. The information provided by MAS has to take into account the aggregation related with the time period, aggregation linked with the functional area, and finally also the analytical or decision models. Top management has to receive more aggregated data than middle management, who need more detailed information, and also the frequency of reporting is more important for middle management (middle management need to take more corrective actions) than top management. The fourth characteristic of MAS is oriented towards integration. The information flow has to be interacted within segments and their sub-units.

As derives from the literature, MAS information has to fulfill numerous attributes. Definitions of information quality differ, but all of them define information quality in general as:

1. Timeliness (frequency and speed of reporting). More frequent information is supposed to provide more useful information for managers' decision taking; Chenhall and Morris (1986) define frequency as one of the required characteristics for information that is useful).
2. Accuracy. In accordance with Wang and Strong (1996) accurate data are correct, objective and come from a reputable source.
3. Completeness (management has all the information needed for decision making).
4. Relevancy. Data are relevant and timely for use in the decision-making process; see Wang and Strong (1996).

HYPOTHESES DEVELOPMENT

Researches from LDC and transition economies (Hopper et al., 2009) have demonstrated that MASs are still not highly developed and comparable with developed market economies and they are still at the initial stages of development (Haldma and Lääts, 2002). The literature suggests that a developed MAS should provide information about budgeting, performance evaluation, strategic planning and costing (Luther and Longden,

2001), using financial as well as non-financial measures (Ivankovič et al., 2010). The traditional MA techniques were more financially-oriented, focusing on variance analysis and profit-based performance measures (Chenhall and Langfield-Smith, 1998), while modern MA techniques focus more on non-financial measures. Since our study refers to a period when Slovenia was in the transition process, we believe that: MASs in Slovene companies are not fully integrated in the decision making process and are focused on traditional MA techniques.

In accordance with the fact that MAS has to prepare information for different decision-making levels, adopting specific intents and decision content, the information received by both managers has to be different; that is, corresponding to specific needs of different levels of decision makers, criteria of aggregation according to Chenhall and Morris (1986). That is why companies where MAS is appropriately developed, and thus meets the quality attributes deriving from the literature, should prepare different information for top and middle management, taking into account their hierarchical level and functional area. Deriving from the literature we form the following hypothesis: In companies where MAS plays a more important role in the decision making process, that is, where MAS provides a broader extent of information, top and middle management receives more diversified MA information. It is not necessarily that a MAS which provides a greater extent of MA information contemporarily forms MA information specific for both levels of decision makers.

Furthermore, even though a MAS may provide a greater extent of information and prepare more differentiated information for decision-makers, it may still not necessarily meet the quality criteria of aggregation as defined by Chenhall and Morris (1986). Top management has to receive more aggregated data than middle management, which needs more detailed information, and also the frequency of reporting is more important for middle management (which needs to take more corrective actions) than for top management. Thus, with our third hypothesis we test whether the Slovene MASs meet the attributes of a quality MAS by testing the third hypothesis: Top management receives more aggregated and less frequent data than middle management.

RESEARCH DESIGN

The analysis is performed on the basis of a questionnaire that was distributed to Slovene medium-sized and large companies. Small companies were excluded from the analysis, since the delegation of authority to lower hierarchical levels (middle management) is reasonable only in medium-sized and large companies.

Prior studies suggest that changes in the environment; such as political, social, and economic changes considerably affect the development of the MAS (Vamosi, 2003; Hopper et al., 2009). That is why the questionnaire was distributed three times, that is, at the end of years 1995, 2001, and 2006. The research in 2001 and 2006

was an iteration of the one performed in 1995. Slovenia is a representative example of a country where important economic and political changes occurred in the analyzed period (Stubelj and Dolenc, 2010). Slovenian companies overcame the transition process and today are fully integrated on the European market.

The sample of companies that were included in the analysis is the following. In the year 1995 54 are medium-sized companies and 125 large companies. In 2001, 151 were large companies, while 50 were medium-sized companies. Finally, in the year 2006 the sample is composed by 44 medium-sized companies and 54 large companies.

The population consists of 859 medium-sized and 288 large companies in the year 1995, 1.032 medium-sized and 287 large companies in 2001 and finally, 1.211 medium-sized and 264 large companies in 2006 (AJ PES, 2010).

Close-ended and open-ended questions were asked. Open-ended question were asked for the precise content of information provided on a daily, weekly, monthly, quarterly and annual basis; both for top and middle management. Furthermore, companies' management was asked about additional information (apart from that concerning the company) provided by MAS and about the principal scope for which the information was used (close-ended question).

The analysis focuses on the part of open-ended questions, that is, analyzing the specific content of the information MAS provided to top and middle management. The importance of MAS in the decision-making process was assessed by determining the first three attributes of MAS information defined by Chenhall and Morris (1986); that is, timeliness, scope and aggregation, while the level of integration could not be defined objectively. The extent of MAS information (referred to as scope) was assessed on the daily, weekly, monthly, quarterly and annual basis (timeliness was integrated in open-ended questions about the frequency of MAS reporting) by analyzing the frequency of MAS information provided to both levels of decision makers (referred to as aggregation).

In order to test the first hypothesis, we analyzed the extent of MAS information provided to top and middle management, to assess the importance of MAS in the decision making process. We additionally explored the content of MAS information by taking into account the definition of MAS information provided by Luther and Longden (2001).

Afterwards, the second hypothesis was tested by correlating the extent of MAS information with the grade of difference between MAS information at different hierarchical levels. Since the MAS information was provided in qualitative form, in order to assess the differences between MAS information at different hierarchical levels we had to quantify the data. The difference was defined with the five-point Likert scale. The analysis was performed on the level of single entities.

Finally, the difference we did assess does not necessarily assure the attributes of MAS as defined by the theory. That is why we tested the frequency and extent of MAS information on both levels of decision makers separately. The respondents were asked about the level of MAS information aggregation, since the latter was not deducible from the open-ended responses.

DATA ANALYSIS AND RESULTS

The number of companies included in the analysis, based on the number of employees, is presented in Table 1. The number of employees was provided at the balancing date of the latest annual balance (cut-off data; that is, 31st December 1995, 31st December 2001 and 31st December, 2006).

In accordance with the literature, MAS is the major

Table 1. Number of employees in companies that were included in the analysis.

Number of employees	1995		2001		2006	
	n	%	n	%	n	%
No answer	2	1.1	1	0.5	3	3.1
51–100	35	19.6	44	21.9	34	34.7
101–250	53	29.6	59	29.4	26	26.5
251–1000	68	38	73	36.3	28	28.6
More than 1000	21	11.7	24	11.9	7	7.1
Sum	179	100	201	100	98	100

Source: authors' data.

*note: companies that did not provide the precise number of employees (no answer) are all classified as large companies, that is why we did not exclude them from the further analysis.

source of information necessary for decision-making. Thus, we firstly analyzed the importance of the accounting department as the primary source of decision-making information. Companies were asked which department provides the information for decision making (Table 2).

By analyzing the answers we can state that in all surveys the accounting department is the most important department providing information for decision making. It is followed by the combination of accounting and analysts' department, with the exception of the year 2006 when other departments became notably more important providers of information (an increase of 18.7 percentage points between 1995 and 2006). Our results suggest that it is crucial to understand the characteristics and development of MAS as the major source of information for decision making.

For the purposes of testing the first hypothesis, the extent and content of open-ended questions was analyzed. Table 3 presents the total number of all MAS information provided to top and middle management. Despite the fact that MA information is crucial in the decision making process, the extent of information that is actually provided to decision makers in Slovene companies is poor. On average the highest amount of MAS information per company was present in 2001, while in 2006 the extent decreased (particularly on the annual and non-regular basis). On average Slovene top and middle management receives most commonly the MAS information on a monthly basis (in all three surveys).

To understand more deeply the design of MAS among Slovene companies, we analyzed the amount of information that is provided by MAS on the level of a single entity, by excluding the information that is duplicated on both levels of decision makers (Appendix 1). A more in-depth analysis reveals that too many companies do not have any MAS information. Fortunately, the results got better in 2006 compared with 1995. However, the mean amount of information on a daily, weekly, monthly and annual basis slightly

Table 2. Department that provides information for decision making.

Department that provides information for decision making	1995 (n = 197)		2001 (n = 201)		2006 (n = 98)		Difference 2006/1995
	n	%	n	%	n	%	Percentage points
No answer	/	/	1	0.5	/	/	
Accounting	82	45.8	113	56.2	36	36.7	-9.1
Analysts	16	8.9	19	9.5	7	7.1	-0.8
Both of them	70	39.1	54	26.9	24	24.5	-14.6
Operational staff	27	15.1	31	15.4	5	5.1	-10
Other	14	7.8	36	17.9	26	26.5	18.7
Total	209	116.8	254	126.4	98	100	/

Source: authors' data.

*Please note that table 2 consists of multiple response questions.

Table 3. Amount of MAS information received by top and middle management (total).

Number of MAS information	D D/n	W W/n	M M/n	A A/n	NR NR/n
1995 (n = 179)					
- total	341	200	695	466	95
- per company	1.90	1.11	3.88	2.6	0.53
2001 (n = 201)					
- total	437	530	817	534	206
- per company	2.17	2.63	4.06	2.65	1.02
2006 (n = 98)					
- total	205	196	398	87	61
- per company	2.09	2	4.06	0.88	0.62

Source: authors' calculations.

*Total number of MAS information includes both; top and middle management.

Legend: D-daily level, W-weekly level, M-monthly level, A-annual level, NR-non-regular information.

deteriorated. Comparing 1995 with 2006, on the daily, weekly and annual level the average amount decreased, while on the monthly level it increased. Taking into account also the year 2001, we can deduce that in 2001 the mean was higher than in 1995 (the exception is the daily level), while in 2006 the results deteriorated.

The decrease of average MASs information per company between 2001 and 2006 might be explained with the growing importance of "other departments" apart from the accounting one (Table 2). These departments which were not specified by the respondents might be connected with the MAS indirectly.

To understand the level of Slovene MASs integration in the decision-making process we further analyzed the content of MASs information. We focused on the definition by Luther and Longden (2001) who divided the necessary information that a developed MAS has to provide into the following four categories: budgeting,

performance evaluation, strategic planning and costing. We focused on the information that is received by top and middle management.

Trying to form representative categories of information, we ascertained that a large extent of information can be classified in groups that are used by less than 5% of companies. Only few of them are used by more than 20% of companies. Focusing on top management, the information can be classified in groups of the following representative categories:

(a) At the daily level: cash and liquidity information (in all three surveys; 55.86% in 1995, 46.26% in 2001 and 36.73% in 2006). It was followed by sales information 26.81% in 1995 and 23.38 % in 2001. All other information on the daily level was used in less than 20% of cases.

(b) On the weekly level the most often used were balance sheet and profit and loss account data in 46.26% of cases (in 2001), and accounts receivable and payable information 23.46% (in 2006), followed by sales 36.31% (in 2001), liquidity 32.83% (in 2001) and production 20.4% (in 2006). All other information on the weekly level was used in less than 20% of cases.

(c) Balance sheet and profit and loss account data on the monthly basis: 65.92% in 1995, 89.05% in 2001 and 89.79% in 2006. Very often MAS provided also the information about sales, production and performance.

(d) Balance sheet and profit and loss account data are most often used even on the annual basis: 68.71% in 1995, 74.12% in 2001, while in 2006 the most often used were annual reports-32.65%.

On the other hand middle management received mostly:

(e) At the daily level: information about production 21.22% (in 1995). All other information on the daily level was used in less than 20% of cases.

(f) All information on the weekly level was used in less than 20% of cases.

(g) Balance sheet and profit and loss account data on the monthly level: 32.4% in 1995, 45.27% in 2001, followed in 2006 by the performance analysis information (32.65%) and once again balance sheet and profit and loss account data, 28.57% in 2006.

(h) Balance sheet and profit and loss account data on the annual level: 35.75% in 1995, 30.84% in 2001, while in 2006 no representative category for middle management was ascertainable.

Apart from the previously mentioned categories, top management usually receives also the information about: production, revenues from sales, performance analysis (more often present in 2006), accounts receivables, accounts payable and reports (annual report or any other specialized reports). On the other hand middle management, apart from receiving the information about production, balance sheet, profit and loss statement data uses mostly information about revenues from sales, accounts receivables and payables.

If almost only financially oriented MAS information was used in the first and second analysis, the survey in 2006 demonstrated an improvement towards more contemporarily used MAS techniques. In 1995 companies were primarily focused on performance evaluation, while all other aspects were neglected. A more in-depth analysis reveals that information about the investments, profit margins and cost analysis was very rarely kept under review. They only occasionally made budgets, monitored the deviations between actual and planned results (less than 5% of cases). Slovene top and middle managers received practically no information about profit or cost centers in the company. The content analysis reveals that until 2006 they used merely traditional MA techniques.

In 2006, budgets were more often evaluated and, further, the deviations between budgets and what was subsequently realized were monitored. Even strategic planning and costing was more often presented. In 2006, the situations for top managers improved in the field of performance analysis and cost analysis (on the monthly basis).

In 2006, the number of companies that made budgets significantly increased, but they are still not significantly important in the sample as a whole. However, the extent of changes is too small and the content of MAS information is not comparable with attributes that characterize a developed MAS.

To understand more in-depth the grade of difference between MAS information received on both decision-makers levels, we further analyzed on the level of single entities the differences in MAS information (we used five-point Likert scale as defined in the methodology section)

Table 4. Average differences in MAS information between top and middle management.

Year/Mean difference	D	W	M	A	Average
1995	1.78	1.36	2.64	1.96	1.93
2001	1.59	1.70	2.31	1.88	1.87
2006	1.73	1.63	2.21	1.61	1.79

Source: authors' calculations.

Legend: D-daily level, W-weekly level, M-monthly level, A-annual level
 Note*: 1 represents information that is not different between decision makers; 2 represents information that differs minimally; 3 represents information that is slightly different; 4 ranks information that is notably different and 5 represents information that is completely different.

(Table 4).

The differences between the extent of information that is received by top and middle management demonstrate that on average the information differs minimally. The biggest difference is present on a monthly basis, when MAS provides the highest extent of MA information. In continuation, we analyzed the correlation coefficients to find out if any relationship exists between the extent of information and the grade of differences (Table 5). Comparing the latter on a daily, weekly, monthly and annual basis in all three surveys we can find high correlation coefficients, meaning that the higher extent of information is connected with a higher grade of difference. Thus, we can state that companies where more extensive information is provided by MAS, that is, companies where MAS is more important in the decision making process, the latter provides more specifically oriented information for decision-makers.

However, the grade of differences still did not provide any evidence about the characteristics (the frequency and level of aggregation) of MAS information on both levels of decision makers. That is why the extent of information on both levels was analyzed (Table 6), and moreover the aggregation of MAS information was assessed by the respondents (Table 7). A more in-depth analysis does provide surprising results. Top management receives more information than middle management (Table 6) and, moreover, more than 20% of the companies do not prepare different MAS information for top and middle management (Table 7). Only 23% in 2006 and 30% in 1995 of the respondents state that top management receives more aggregated data.

Contrary to what the theory suggests, the results demonstrate that top management receives more information than middle management and too often the respondents state that the information between the levels of decision making does not differ (29.1% in 1995, 21.9% in 2001 and 21.4% in 2006). These findings are inconsistent with the literature and best practice, where middle management receives more frequent information and more detailed data than top management.

At the same time we could be optimistic, as the share

Table 5. Correlation matrix between the extent of MAS information and the grade of MAS information difference.

Dif.	The extent of information provided by MAS											
	1995				2001				2006			
	D	W	M	A	D	W	M	A	D	W	M	A
D	0.761**	0.188*	0.230**	0.196**	0.725**	0.319**	0.272**	0.231**	0.792**	0.091	0.183	0.384**
W	0.277**	0.503**	0.194**	0.155*	0.304**	0.781**	0.132	0.183**	0.145	0.745**	0.157	0.235*
M	0.366**	0.195**	0.586**	0.443**	0.363**	0.237**	0.718**	0.380**	0.183	0.082	0.591**	0.385**
A	0.209**	0.104	0.290**	0.702**	0.271**	0.192**	0.419**	0.719**	0.304**	0.167	0.283**	0.755**

Source: authors' calculations.

* All correlations are significant at the 0.05 level (2-tailed).

** All correlations are significant at the 0.01 level (2-tailed).

Legend: Dif.-difference, D-daily level, W-weekly level, M-monthly level, A-annual level.

Table 6. The extent of MAS information received by top and middle management.

Reporting period	1995 (n = 179)		2001 (n = 201)		2006 (n = 98)		Average	
MAS Information	TM (Infor./n)	MM (Infor./n)	TM (Infor./n)	MM (Infor./n)	TM (Infor./n)	MM (Infor./n)	TM	MM
Daily basis								
- total	204	137	301	136	136	69	213	114
- per company	1.03	0.69	1.49	0.67	1.38	0.70		
Weekly basis								
- total	135	65	390	140	143	53	222	86
- per company	0.75	0.36	1.94	0.69	1.45	0.54		
Monthly basis								
- total	420	275	511	306	258	140	396	240
- per company	2.34	1.53	2.54	1.52	2.63	1.42		
Annual basis								
- total	291	175	356	178	62	25	236	126
- per company	1.62	0.97	1.77	0.88	0.63	0.25		
Non regular basis								
- total	62	33	117	89	37	24	72	48
- per company	0.34	0.18	0.58	0.44	0.37	0.24		

Source: authors' calculations.

Legend: TM-top management, MM-middle management, infor.-information.

Table 7. Aggregation level of MAS information between different hierarchical levels.

	1995 (n = 179)		2001 (n = 201)		2006 (n = 98)		Difference 2006/1995
	n	%	n	%	N	%	Percentage points
No answer	/	/	3	1.5	1	1	1
No differences	52	29.1	44	21.9	21	21.4	-7.7
Top management has more aggregated information	55	30.7	57	28.4	23	23.5	-7.2
Information is completely different	/	/	4	2	4	4.1	4.1
Some information is equal, some differentiated	66	36.9	84	41.8	47	48	11.1
We do not know	6	3.4	/	/	2	2	-1.4
Total	179	100	201	100	98	100	/

Source: authors' calculations.

of respondents which stated that no difference in the aggregation level between management exists has diminished between the year 1995 and 2006 by 7.7 percentage points. In the last survey it amounted to 21.4%. The latter demonstrates that companies are becoming aware of the MAS role in providing different information for different decision making levels.

Conclusions

Based on the results, we can state that the most important department that provides decision making information within Slovene medium-size and large companies is the accounting department. That is why we would expect that MAS provides a wide extent of information for decision makers, but on the basis of the presented results we can accept our first hypothesis and state that MASs are not fully integrated in the decision-making process within Slovene medium-sized and large companies. Companies included in the sample use merely traditional MA techniques. Improvements were noticed only in 2006, when more companies implemented budgeting, strategic planning and costing. The improvements were more likely connected with the internationalization process and the implementation of foreign best practices. However, major improvements still have to be done.

Despite the fact that we can confirm our second hypothesis and state that a more developed MAS in the case of Slovene companies is linked with more varied information on different decision-making levels, subsequent analysis reveals that the nature of these differences is not consistent with the literature and best practice. Top management receives more frequent and a higher extent of MAS information than middle management. We would expect that top management would use MAS information for more long-term decision making, while on the other hand middle management is expected to use MAS information for more short-term decisions (more frequent use of MAS information for prompt actions and corrective activities). We presume that the reasons are closely connected with the characteristic of Slovene companies which are smaller than medium-size and large companies in bigger countries. Smaller number of employees undoubtedly leads to a minor importance of lower managerial hierarchical levels and thus to a lower (or even absent) delegation of authority.

The reasons for a low involvement of Slovene MASs in the decision making process could be the following. The respondents might not provide all the information that is actually received by top and middle managers, thus the importance of MAS might be undervalued. We could explain the non-importance of MAS as the consequence of characteristics of business practice that did not require more management accounting information and

consequently did not force the development of MAS. The limitations of the study refer to a smaller sample size in 2006, as a result the findings may not reflect the true incidence of the MASs characteristics in the population. Limitations refer also to undisclosed content of "other departments" (Table 2) that became more important in 2006. They might be indirectly connected with MAS, thus Slovene MASs might be undervalued.

Slovene companies will have to design MAS by focusing on specific needs of decision-makers, where middle management will have to receive maximum attention. Unless Slovene companies will be able to design modern and properly implemented MASs, consistent with the best practice and literature, they will not be able to take prompt actions and compete on international markets. Further research should focus on MAS development in the post-transition period.

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