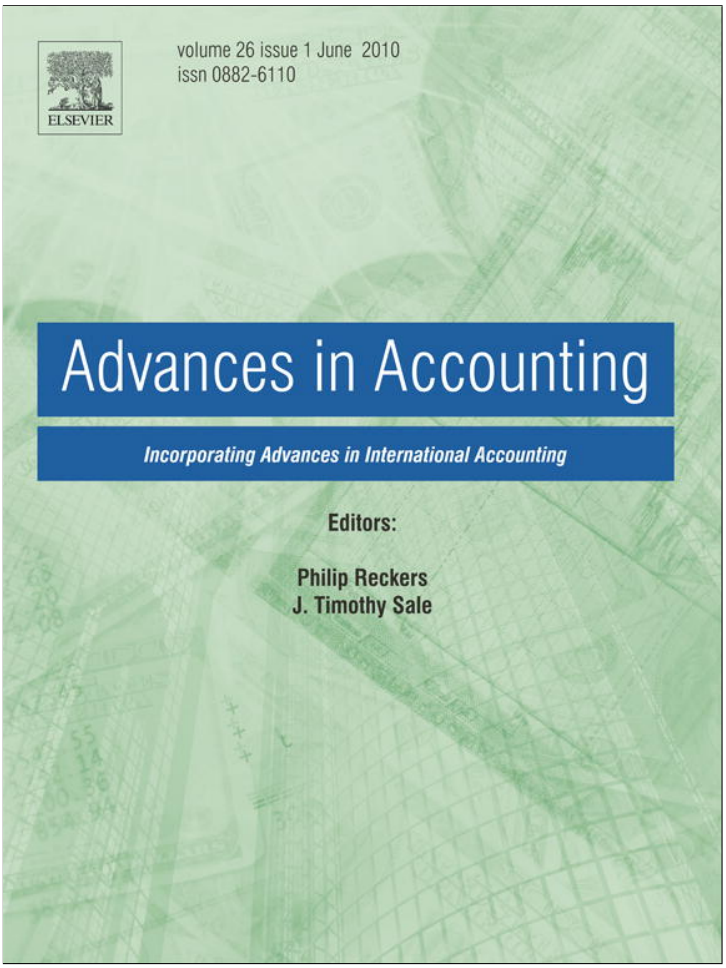

Advances in Accounting, incorporating Advances in International Accounting 26 (2010) 87–96

Contents lists available at ScienceDirect

Advances in Accounting, incorporating Advances in International Accounting

journal homepage: www.elsevier.com/locate/adiac

Adoption and benefits of management accounting practices: Evidence from Greece and Finland

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A B S T R A C T

This study investigates the extent to which large-size Greek manufacturing firms have implemented various traditional and currently developed management accounting practices (MAP), the benefits received from those practices and the intentions to focus on specific practices in the future. The findings indicate, that, implementation rates for many currently-developed practices were of a high level and similar than those presented in other countries, in total, traditionally MAP were found to be marginally higher implemented than the currently developed ones. However, there is an increasing trend for firms to place greater emphasis in the future on currently developed techniques instead the traditional ones, particularly on performance evaluation techniques. The results of this survey are compared to the findings of a similar study in Finland.

1. Introduction

Traditional management accounting practices (MAP) such as budgeting, costing and profitability analysis mostly focus on internal organizational issues and are financially oriented. Additionally, recently developed MAP methods form financial and non-financial information focusing in a more strategic orientation. Several studies have analysed the adoption and benefits of traditional and recently developed MAP all over the world (Bhimani, 1996; Brown, Booth, & Giacobbe, 2001; Chenhall & Langfield-Smith, 1998; Haldma & Laats, 2002; Hyvonen, 2005; Lin & Yu, 2002; Malmi, 2001; O'Connor, Chow, & Wu, 2004; Shields, 1998; Sulaiman, Ahmad, & Alwi, 2004; Szychta, 2002).

In recent years there has been an increasing harmonization of financial accounting and advances in information technology have created an interest in the extent to which there is a common ground in management accounting practices across Europe (Pistoni & Zoni, 2000). Also, there is an interest in the more general issue of whether management accounting in Europe is becoming part of "global" management accounting practices and whether the same management accounting systems are being applied in a variety of countries (Granlund & Lukka, 1998a,b; Harrison & McKinnon, 1999; Hyvonen, 2005; Shields, 1998). The result of this demand was the development of some new varieties of practices.

Chenhall and Langfield-Smith (1998), surveying the Australian manufacturing sector, found that traditional management accounting techniques were found to be more widely adopted than recently developed techniques and that there is greater attention being paid to newer techniques in the future, especially activity-based techniques and benchmarking. Their concluding comments suggest that future research should be directed at gaining a better understanding of the factors that influence differences in the levels of adoption of recently developed management accounting techniques between countries.

Hyvonen (2005), in a similar study in Finland, attempts to identify the level of adoption of various MAP, the received benefits from the adoption, and the intentions of Finnish manufacturing firms to emphasize the practices in the future. Her findings suggest that financial measures like product profitability analysis and budgeting for controlling costs is likely to be important for the future and also greater emphasis will be placed on newer MAP like customer satisfaction surveys and employee attitudes. The results of her survey are compared to the findings of a similar study of Chenhall and Langfield-Smith (1998) referring to Australian manufacturing firms. She reports that Finnish firms give greater emphasis to recently developed non-financial measures than the Australian ones. Also, when compared with other European studies, the differences in MAP are not distinct.

In Greece, Ballas and Venieris (1996) after conducting a series of interviews in some major Greek firms noted that there was no clear picture as to what guides management accounting development in Greece. In their concluding remarks, they state that most companies used accounting for fiscal consideration purposes instead of as a tool to improve their management. Cohen, Venieris, and Kaimenaki (2005) and Venieris and Cohen (2008) investigate the reasons for ABC adoption in Greek enterprises. Therefore, there is a little evidence about MAP and especially on the issue of adoption and benefits of both

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doi:10.1016/j.adiac.2010.02.003

traditional and currently-developed MAP or the intentions of firms on specific management accounting methods in the future.

The major aim of this study is to identify the MAP implemented by the Greek firms both traditional and currently developed, and their intentions for future use. Secondly, the findings of this survey are also compared with the results of Hyvonen (2005) who has analysed MAP for Finnish manufacturing firms. Thus, this study attempts to identify differences and similarities between these two European countries, Greece and Finland, and tests the homogeneity of European practices (Lukka & Granlund, 1998; Macintosh, 1998; Shields, 1998). Also, this study contributes to the management accounting literature by providing additional information to a European perspective of management accounting practice.

2. Research methodology

A survey was undertaken to gather all the appropriate data by use of a structured questionnaire. The design of the survey follows those of Chenhall and Langfield-Smith (1998) and Hyvonen (2005). In order to achieve sufficient sample size and generalizability of the results, the sample frame for this study consisted of all 157 large-size Greek manufacturing companies that employed at least 250 people. The population was drawn from a database compiled by ICAP, which is a well-known and reliable source of data for Greek companies. The size limitation was introduced for the reason that small and medium firms present some difficulties and mostly these companies do not have the appropriate management accounting tools (Chenhall & Langfield-Smith, 1998). Especially in the small firms, information is rare, and in some cases, is far from reliable. In Greece, as anywhere else, larger companies are those expected to use most of the tools and proposed practices. The questionnaire items used in this survey are exactly the same with the ones used in Hyvonen (2005) and Chenhall and Langfield-Smith (1998).

A pre-test was performed to establish content validity (Zikmund, 2003). The instrument was pre-tested through in-depth discussions with academics and management accounting professionals (from the large-size firms and specialized consulting companies). Four academics, six financial controllers or management accounting managers from the large-size firms and two management accounting professionals from consulting firms participated in the pre-testing process. The final questionnaire included 45 MAP (see Appendix A for a list of these MAP). Appendix A also categorizes these MAP according to whether they are traditional MAP (coded as T) or currently developed MAP (coded as C) and whether these MAP are used in the budgeting system (B), in the decision support system (DS), for long-term planning (LTP), for product costing (PC), or performance evaluation (PE).

For each of the 45 items, respondents were asked to indicate the benefits gained from the MAP over the last three years and the degree of emphasis the business unit will place on each MAP over the next three years. A five-point Likert scale was used to assess these benefits with 1 = no benefit and 5 = high benefit and the future emphasis placed on each MAP with no emphasis = 1 and high emphasis = 5, (Chenhall & Langfield-Smith, 1998; Hyvonen, 2005).

To ensure that the management accounting managers/controllers of the total population firms were willing to complete the questionnaire and to maximize the response rate, one research assistant contacted all 157 large-size firms. It should be mentioned that due to time constraints or company privacy concerns many management accounting managers/controllers declined to participate. The questionnaire was sent only to the 97 management accounting managers/controllers who agreed to participate in the survey (mailed or e-mailed, depending on their preference). A cover letter explaining the study objectives was attached and a stamped return envelope was enclosed. Follow-up letters were sent approximately three weeks after the initial mailing.

Within the survey, respondents were asked to indicate whether their firms had implemented each MAP and then for those who had used it in daily practice, to assess the benefits gained over the last three years. Participants were also asked the degree of emphasis that their business would give to each practice over the next three years. Demographic features of the business were obtained, including the position of the respondent and organizational size (manpower and turnover) (see Table 1). Surveys were not pre-numbered to allow the anonymity of respondents to be preserved.

A total of 88 questionnaires were returned, which corresponds to a 90.72 per cent overall response rate. Of these, five questionnaires were discarded because they were not appropriately completed. Consequently, 83 questionnaires retained for analysis (a response rate of 85.57%).

Generally speaking, researchers normally work to a 95% of certainty. This actually means that with a total population of 157 firms the minimum sample size should be around 108 instead of 83 firms (Saunders, Lewis, & Thornhill, 2000, p.156). Although the smaller size could be considered as one of the limitations of this research, we could defend it on the grounds stated by Shelby Hunt:

> No manuscript should be rejected on the basis of potential nonresponse bias–no matter what the response rate is–unless there is good reason to believe that the respondents do in fact differ from the nonrespondents on the substantive issues in question and that these differences would make the results of the study unreliable' (Hunt, 1990, p.174).

To test whether our respondents were different from the non-respondents, we examined if there are any differences in the mean of all variables used in this study between early and late respondents. The rationale behind such an analysis is that late respondents (i.e. sample firms in the second mailing) are more similar to the population from which they were drawn, than the early respondents (Armstrong & Overton, 1977). No statistically significant differences were found, thus suggesting that non-response bias is not a serious issue in the study.

The Hyvonen (2005) study investigated large Finnish manufacturing firms. These companies were business units or companies on their own right. By using 51 responses she analysed the adoption of management accounting practices and their importance in the future. A majority of the respondents (38) were finance executives and most

Table 1
Demographic data.

	No.	%
Listed in Athens stock exchange		
Listed	65	78
Non Listed	18	22
Total sample	83	100
Size of organizations (turnover — m Euro)		
<100	6	7
>101–200	29	35
>201–301	31	37
>301	17	20
Total sample	83	100
Position of respondent		
Financial manager	62	75
Financial controller	12	14
Sr management accountant	6	7
Sr accountant	2	2
Accountant	1	1
Total sample	83	100
Size of organizations (manpower — employees)		
250–500	14	17
501–700	32	39
701–1000	26	31
>1000	11	13
Total sample	83	100

of them belonged to senior management (33). The current study also applies to large manufacturing firms and the background of the respondents is similar, so these two data sets should be comparable.

3. Survey results

3.1. Management accounting practices — implementation (or adoption)

Table 2 reports the results of the implementation of management accounting practices in Greece and Finland. It is separated in three equal parts (high–moderate–low) in order to lead the analysis and is not meant to imply that implementation (or benefits) is either high or low in any absolute sense. Each part contains fifteen items. MAP are divided into five categories: budgeting systems (B), decision support systems (DS), long term planning (LTP), product costing (PC), and performance evaluation (PE). Also all these categories are included in two broader categories: traditional techniques (such as budgeting systems, performance evaluation such as ROI and divisional profit, among other things) and recently or currently developed techniques (such as benchmarking, activity based techniques, balanced performance measures, team based measures, employee based measures and strategic planning), (Chenhall & Langfield-Smith, 1998; Hyvonen, 2005).

The results reported in Table 2 present that high proportion of the practitioners in the survey have adopted most of the practices. Twenty three out of forty five practices are implemented by at least 80% of the firms and 42 items are adopted by at least 50% of the firms. The high and moderate implementation rates may exist regardless the level of implementation. However, levels of implementation may vary across firms. Greek implementation rates are falling behind the Finnish ones.

Table 2
Relative implementation rates of management accounting practices in Greece and Finland.

Cat[a]	Management accounting practice	Greece		FIN[b] rank
		%	Rank	
High implementation rate				
DS	Product profitability analysis	100	1	3
B	Budgeting for controlling costs	98	2	1
LTP	Formal strategic planning	96	3	4
B	Budget for planning financial position	94	4	9
PE	Performance evaluation: production processes	94	4	4
B	Budgeting for coordinating activities across the business units	92	5	6
B	Budgeting for planning cash flows	92	5	3
PE	Performance evaluation: qualitative measures	92	5	2
PC	Product costing: absorption costing	91	6	8
LTP	Strategic plans developed with budgets	91	6	4
B	Budgeting for evaluating managers' performance	89	7	4
LTP	Long range forecasting	89	7	5
PE	Performance evaluation: employee attitudes	89	7	3
PE	Performance evaluation: ROI	89	7	4
Moderate implementation rate				
LTP	Capital budgeting measures like IRR, NPV	87	8	7
PE	Performance evaluation: budget variance analysis	87	8	6
PE	Performance evaluation: ongoing supplier evaluations	87	8	5
PE	Performance evaluation: customer satisfaction surveys	85	9	4
PE	Performance evaluation: divisional profit	85	9	5
LTP	Capital budgeting measures like ROI, payback	83	10	3
PE	Performance evaluation: non-financial measures	83	10	7
DS	Benchmarking of management processes	81	11	9
PE	Performance evaluation: cash flow ROI	79	12	6
PE	Performance evaluation: team performance	79	12	11
DS	Benchmarking carried out within the wider organization	77	13	11
DS	Benchmarking of product characteristics	75	14	11
PE	Performance evaluation: controllable profit	75	14	14
DS	Benchmarking of strategic priorities	74	15	11
B	Budget linking financial position, resources and activities	74	15	9
DS	Benchmarking with outside organisations	72	16	9
Low implementation rate				
LTP	Strategic plans developed separately from budgets	70	17	10
B	Budget for planning day-to-day operations	68	18	7
DS	Activity-based management	66	19	8
DS	Benchmarking of operational processes	66	19	6
B	Budgeting for compensating managers	64	20	8
PC	Product costing: activity-based costing	62	21	11
DS	Value chain analysis	60	22	16
PC	Product costing: variable costing	58	23	4
DS	Product life cycle analysis	57	24	14
DS	Cost-volume-profit analysis	55	25	14
DS	Operations research techniques	53	26	15
DS	Target costing	51	27	12
PE	Performance evaluation: balanced scorecard	49	28	13
PE	Performance evaluation: residual income	47	29	14
DS	Economic or shareholder value analysis	45	30	14

[a] B = budgeting systems, DS = decision support systems, LTP = long term planning, PC = product costing, PE = performance evaluation.
[b] FIN: relative rankings in the Hyvonen (2005) study of Finnish firms.

3.2. Budgeting

Budgeting for controlling costs is implemented by almost all Greek firms (Rate 98%) in the sample. Budget for planning financial position, budgeting for coordinating activities across the business units, budgeting for planning cash flows, budgeting for evaluating managers' performance all ranked in the high implementation rates. Budget linking financial position, resources and activities is ranked moderate but still has an implementation rate of 74%. Budget for planning day-to-day operations and budgeting for compensating managers ranked *low* also they have implementation rates of 68% and 64% respectively. From these rankings it is obvious that Greek firms continue to consider budgeting practices as very important and still use it as one basic planning tool (Ballas & Venieris, 1996). In Finland, the practice implemented by all firms is budgeting for controlling costs (ranked 2 for Greece). Comparing the budgeting practices as a total between Finland and Greece, Finland has a higher average implementation percent rate in practices and higher rankings than Greece. Between the two countries there are some noticeable differences on the following practices: budgeting for planning day-to-day operations (ranked 18 for Greece and 7 for Finland), and budgeting for compensating managers (ranked 20 for Greece and 8 for Finland).

3.3. Decision support

Product profitability analysis is implemented by every firm in the sample and it is ranked the highest (ranked 1) of all practices and among the decision support practices as well. In fact, it is the only practice in the high adoption rate category, same high ranking received in Finland too. Benchmarking of management processes (ranked 11), benchmarking carried out within the wider organization (ranked 13), benchmarking of product characteristics (ranked 14), benchmarking of strategic priorities (ranked 15), benchmarking with outside organizations (ranked 16) are all ranked in the moderate rate category. Activity-based management (ranked 19), benchmarking of operational processes (ranked 19), value chain analysis (ranked 22), product life cycle analysis (ranked 24), cost-volume-profit analysis (ranked 26), operations research techniques (ranked 26), target costing (ranked 27) and economic or shareholder value analysis (ranked 30) are all ranked in the low rate category. The last six practices have received the same low rank for Finland too. Comparing the decision support practices as a total between Finland and Greece, Finland has a higher average implementation percent rate in practices and higher rankings than Greece. Between the two countries there are some noticeable differences on the following practices: activity-based management (ranked 19 for Greece and 8 for Finland), benchmarking of operational processes (ranked 19 for Greece and 6 for Finland), target costing (ranked 27 for Greece and 12 for Finland), and

economic or shareholder value analysis (ranked 30 for Greece and 14 for Finland).

The most highly implemented long-term planning practices are: formal strategic planning (ranked 3), strategic plans developed with budgets (ranked 6), and long-range forecasting (ranked 7). These findings support the view that strategic planning is implemented by many companies and contrasts with an older view that formal strategic planning is not implemented enough and does not improve performance (Carr & Tomkins, 1996; Mintzberg, 1994). Those receiving a moderate rank were: capital budgeting measures like IRR, NPV (ranked 8), and capital budgeting measures like ROI, payback (ranked 10). The practice strategic plans developed separately from budgets (ranked 17) received a low rank of implementation. Finnish firm gave similar rankings. Szychta (2002), reports the same investment appraisal methods used in Poland like the ones used in this survey instrument (capital budgeting items such as return on investment (ROI), payback period, net present value (NPV), internal rate of return (IRR), NPV sensitivity analysis) but the adoption rates are between 15–40%, while in the current study the respective use is between 83–87%. These findings suggest that both formal strategic planning and traditional budgeting systems provide high benefits for the organizations, also besides performance evaluation, management accounting provides information for planning (Emmanuel, Otley, & Merchant, 1990). Comparing the long term planning practices as a total between Finland and Greece, Finland has a higher average implementation percent rate in practices and higher rankings than Greece. Between the two countries there is a noticeable difference on the following practice: Capital budgeting measures like ROI, payback (ranked 10 for Greece and 3 for Finland).

3.4. Product costing

The three practices for product costing received high and low rankings. More specifically absorption costing (or full costing) has a relatively high implementation rate (ranked 6), the main reason is due that this method is mainly mandated by the Hellenic General Accounting Plan which follows the rules of EU financial record keeping (Ballas & Venieris, 1996). Absorption costing is ranked moderate for Finland. Activity-based costing (ranked 21) and variable costing (ranked 23) have received a low implementation rank. Activity-based costing has received low implementation rates in Finland as well. On the opposite side is Variable costing which has received a high implementation rate in Finland mainly because it is allowed for external reporting. In the last twenty years, activity-based costing (ABC) has been one of the most popular costing tools helping to realize how companies' resources allocated across the value chain to produce strategic outcomes (Shank & Govindarajan, 1993). In the beginning, implementation rates were slow but later on mostly companies in UK and US started to adopt it more (Evans & Ashworth, 1996; Innes & Mitchel, 1995; Shim & Sudit, 1995). Ballas and Venieris (1996) reported that by that time activity-based methods were not implemented in Greece. Later on, Cohen et al. (2005) reported that in Greece there is an increasing rate of ABC adoption in recent years; also companies which implement ABC do not use it as a mean to improve cost measurement accuracy but rather as a management tool with multiple functions. This study confirms this trend for Greece even there is a low implementation rank the implementation rate of the sample is 62%. Similarly, Haldma and Laats (2002) referring to similar costing methods (such as absorption or full costing, activity-based costing, process costing, job order costing, standard costing, marginal/direct costing, project costing) in Estonian organizations report implementation rates between 7–55% while in this study the respective use is between 58–90%. Comparing the product costing practices as a total between Finland and Greece, Finland has a higher average implementation percent rate in practices and higher rankings than Greece. Between the two countries there are some noticeable differences on the following practices: Activity-based costing (ranked 21 for Greece and 11 for Finland), strategic plans developed separately from budgets (ranked 17 for Greece and 10 for Finland).

3.5. Performance evaluation

Performance evaluation practices include both traditional and recently developed ones, some of the techniques are financial and some non-financial. The highest ranking performance evaluation in Greek firms is production processes (ranked 4), and the second highest is qualitative measures (ranked 5). The other performance evaluation practices with *high* implementation rates are: employee attitudes (ranked 7), return on investment (ROI) (ranked 7). The first three practices belong to the currently developed non-financial practices while ROI belongs to the traditional financial practices. Similarly Hyvonen (2005) reports higher rankings for these practices in Finland too. Budget variance analysis (ranked 8), ongoing supplier evaluations (ranked 8), customer satisfaction surveys (ranked 9), divisional profit (ranked 9), non-financial measures (ranked 10), cash flow ROI (ranked 12), team performance (ranked 12), controllable profit (ranked 14) all are ranked with moderate implementation rates. In Finland, divisional profit and customer satisfaction surveys are ranked high and team performance and controllable profit are ranked low, with the rest being ranked moderate. Generally, traditional financial performance evaluation measures are of moderate implementation in Greece while non-financial measures have higher implementation. For Finland, traditional financial performance evaluation measures are divided almost equally between moderate and high implementation and non-financial measures have higher implementation. Comparing the performance evaluation practices as a total between Finland and Greece, Finland has a higher average implementation percent rate in practices and higher rankings than Greece. Between the two countries there are some noticeable differences on the following practices: balanced scorecard (ranked 28 for Greece and 13 for Finland), residual income (ranked 29 for Greece and 14 for Finland).

These findings are in accordance of various researchers who have presented evidence that financial measures of performance are very important in many countries (Ballas & Venieris, 1996; Bhimani, 1996; Chenhall & Langfield-Smith, 1998; Israelsen, Anderson, Rohde, &Sorensen, 1996). Also, Drury (2000) states that financial summaries of performance provide only a limited view of the efficiency and effectiveness of actual operations. In today's competitive environment organizations shift their focus on product quality, delivery, reliability, after sales service, customer satisfaction and other non-financial measures.

Summarizing, the findings of this study suggest that financial performance measures continue to be an important part of management accounting practice in Greek firms and are supplemented with a variety of non-financial ones. Hyvonen (2005) reports similar results for Finland as well. Ballas and Venieris (1996) had reported a similar situation for Greece regarding financial and non-financial measures with financial measures to be of high importance for the firms. Comparing all practices as a total between Finland and Greece, Finland has a higher average implementation or adoption percent rate and higher rankings than Greece. Between the two countries there are some noticeable differences among some practices.

3.6. Management accounting practices—past benefits

Tables 3–5 present the relative benefits of the management accounting practices included in Table 2 during the past 3 years and the relative future emphasis to be placed on these practices over next 3 years. Standard deviations are also shown to indicate the diversity of responses.

Table 3
Management accounting practices — high benefit: past benefits and future emphasis.

Cat[a]	Management accounting practice	Relative benefits past 3 years				Relative future emphasis next 3 years			
		Greece			FIN[b] rank	Greece			FIN[b] rank
		Mean	SD	Rank		Mean	SD	Rank	
LTP	Capital budgeting measures like IRR, NPV	4.80	0.40	1	29	4.80	0.40	5	41
B	Budgeting for controlling costs	4.77	0.43	2	2	4.94	0.31	1	2
PE	Performance evaluation: budget variance analysis	4.65	0.48	3	7	4.81	0.40	4	23
PE	Performance evaluation: qualitative measures	4.59	0.61	4	4	4.92	0.27	2	3
PE	Performance evaluation: ROI	4.36	0.57	5	5	4.79	0.41	6	6
LTP	Capital budgeting measures like ROI, payback	4.21	0.83	6	6	4.66	0.48	8	10
B	Budgeting for evaluating managers' performance	4.19	0.68	7	16	4.31	0.67	20	15
DS	Strategic plans developed with budgets	4.15	0.55	8	8	4.64	0.49	9	11
LTP	Product profitability analysis	4.13	0.65	9	9	4.94	0.31	1	1
B	Budgeting for coordinating activities across the business units	4.12	0.70	10	24	4.74	0.44	7	13
PE	Performance evaluation: production processes	4.12	0.63	10	11	4.58	0.50	10	12
LTP	Formal strategic planning	4.02	0.59	11	14	4.85	0.36	3	22
PE	Performance evaluation: divisional profit	3.98	0.78	12	1	4.81	0.39	4	7
B	Budgeting for planning cash flows	3.94	0.56	13	18	4.40	0.61	17	27
LTP	Long range forecasting	3.94	0.82	13	15	4.32	0.63	19	18

[a] B = budgeting systems, DS = decision support systems, LTP = long term planning, PC = product costing, PE = performance evaluation.
[b] FIN: relative rankings in the Hyvonen (2005) study of Finnish firms.

3.7. Long-term planning

The practice capital budgeting measures like IRR, NPV is ranked number one for benefits gained over the past 3 years. A lot of firms in the survey are large business units with heavy investment plans; that may explain the high rank. Other long term planning in the high benefits category are: capital budgeting measures like ROI — payback, product profitability analysis, formal strategic planning, and long-range forecasting. One great difference in benefits received with Finland in this category is: capital budgeting measures like IRR, NPV (ranked 1 for Greece and 29 for Finland).

3.8. Budgeting

Budgeting for controlling costs is ranked number two. Other budgeting practices in the high benefit category are: budgeting for evaluating managers' performance, budgeting for coordinating activities across the business units, and budgeting for planning cash flows. In this category, practitioners reported almost similar benefits by practicing the respective budgeting practices. One noticeable difference between the two countries in benefits received in this category is: budgeting for coordinating activities across the business units (ranked 10 for Greece and 24 for Finland).

3.9. Decision support

Strategic plans developed with budgets is ranked number eight is the only decision support practice on the high benefit category. Practitioners seem to have low benefits from many of the decision support practices; even in the implementation rates are ranked mostly moderate and some high.

3.10. Performance evaluation

Many of the performance evaluation practices are included in the high benefits category: budget variance analysis, qualitative measures, ROI, production processes, and divisional profit. Some practices with differences in rankings with Finland are: balanced scorecard,

Table 4
Management accounting practices — moderate benefit: past benefits and future emphasis.

Cat[a]	Management accounting practice	Relative benefits past 3 years				Relative future emphasis next 3 years			
		Greece			FIN[b] rank	Greece			FIN[b] rank
		Mean	SD	Rank		Mean	SD	Rank	
PE	Performance evaluation: balanced scorecard	3.85	0.54	14	40	4.46	0.58	15	21
DS	Benchmarking with outside organisations	3.76	0.71	15	34	4.51	0.56	12	28
B	Budgeting for compensating managers	3.71	0.72	16	21	4.16	0.63	23	24
PE	Performance evaluation: cash flow ROI	3.62	0.58	17	19	4.34	0.69	18	20
PE	Performance evaluation: ongoing supplier evaluations	3.59	0.58	18	20	4.45	0.73	16	17
LTP	Strategic plans developed separately from budgets	3.49	0.73	19	23	4.23	0.43	21	34
PC	Product costing: Absorption or Full costing	3.48	0.55	20	10	4.50	0.58	13	8
PE	Performance evaluation: residual income	3.44	0.82	21	41	3.96	0.77	29	40
PE	Performance evaluation: non-financial measures	3.41	0.66	22	22	4.52	0.55	11	19
B	Budget for planning financial position	3.40	0.70	23	25	4.08	0.63	26	30
PE	Performance evaluation: controllable profit	3.38	0.54	24	26	4.05	0.60	27	32
B	Budget for planning day-to-day operations	3.36	0.72	25	27	3.76	0.78	34	39
DS	Benchmarking of product characteristics	3.33	0.58	26	28	4.10	0.60	25	29
PC	Product costing: variable costing	3.29	0.53	27	3	3.72	0.63	36	5
PC	Product costing: activity-based costing	3.27	0.67	28	30	4.47	0.62	14	16

[a] B = budgeting systems, DS = decision support systems, LTP = long term planning, PC = product costing, PE = performance evaluation.
[b] FIN: relative rankings in the Hyvonen (2005) study of Finnish firms.

Table 5
Management accounting practices — low benefit: past benefits and future emphasis.

Cat[a]	Management accounting practice	Relative benefits past 3 years				Relative future emphasis next 3 years			
		Greece			FIN[b] rank	Greece			FIN[b] rank
		Mean	SD	Rank		Mean	SD	Rank	
DS	Activity-based management	3.26	0.82	29	36	4.34	0.76	18	37
DS	Cost-volume-profit analysis	3.24	0.64	30	32	3.90	0.67	31	36
B	Budget linking financial position, resources & activities	3.21	0.73	31	33	4.05	0.69	27	31
DS	Benchmarking of operational processes	3.14	0.60	32	17	4.15	0.56	24	14
DS	Benchmarking of strategic priorities	3.10	0.63	33	35	4.03	0.74	28	33
PE	Performance evaluation: employee attitudes	3.09	0.54	34	13	3.89	0.65	32	9
DS	Benchmarking carried out within the wider organization	3.07	0.69	35	37	3.93	0.72	30	35
PE	Performance evaluation: team performance	2.98	0.64	36	38	4.19	0.51	22	25
DS	Target costing	2.89	0.75	37	39	3.77	0.65	33	38
PE	Performance evaluation: customer satisfaction surveys	2.82	0.68	38	12	4.34	0.64	18	4
DS	Benchmarking of management processes	2.79	0.51	39	31	3.74	0.58	35	26
DS	Product life cycle analysis	2.77	0.50	40	42	3.72	0.59	36	42
DS	Operations research techniques	2.64	0.56	41	43	3.50	0.64	38	44
DS	Economic or shareholder value analysis	2.58	0.58	42	44	3.60	0.65	37	43
DS	Value chain analysis	2.41	0.56	43	45	3.45	0.75	39	45

[a] B = budgeting systems, DS = decision support systems, LTP = long term planning, PC = product costing, PE = performance evaluation.
[b] FIN: relative rankings in the Hyvonen (2005) study of Finnish firms.

customer satisfaction surveys, employee attitudes, and residual income (14, 38, 34, 21 for Greece and 40, 12, 13 and 41 for Finland respectively).

3.11. Product costing

Product costing practices are all included in the moderate benefits received category. In Finland, variable costing is included in the third place on the high benefit category, in Greece is included in the moderate benefit category and is ranked 27.

Although Greek evidence have some similarities with the results reported by Hyvonen (2005), they also have some noticeable differences in rankings for the benefits received. The results indicate that practitioners receive high benefits from the financial measures like budgeting for controlling costs, capital budgeting measures like IRR-NPV, and budget variance analysis. Also, some of the currently developed techniques like: qualitative measures, production processes, formal strategic planning, and long range forecasting are ranked in the high benefit received category.

The high benefit category contains mostly traditional and less currently developed practices, similar results with those of Hyvonen (2005). This study also confirms Hyvonen (2005) about shareholder value analysis which is ranked as low as 42% in Greece (44% in Finland).

3.12. Management accounting practices: future emphasis

Tables 3–5 also indicate the intention of the firms to emphasize each management accounting practice over the next 3 years. The results show that both budgeting for controlling costs and product profitability analysis are expected to be the most important practices in the near future. Qualitative measures are ranked the next most important and formal strategic planning is ranked number three. Traditional techniques like budget variance analysis (4), divisional profit (4), capital budgeting measures like IRR, NPV (5), and budgeting for coordinating activities across the business units (7) will be highly important in the future.

Customer satisfaction surveys is the practice with the biggest change, which rises from rank 38 to 18. Other currently developed practices with noticeable change are: team performance from 36 to 22, and activity-based costing from 28 to 14. These changes indicate a trend and the fact that Greek firms experiment some new techniques. Also about ABC costing this study confirms Cohen et al. (2005) where they report an increasing trend of this practice among Greek enterprises, this trend remains.

On the opposite side some practices with the biggest negative change, less preferred in the future, are: budgeting for evaluating manager's performance from 7 to 20, variable costing from 27 to 36, budget for planning day-to-day operations from 25 to 34, and residual income from 21 to 29. One main reason for these big changes is due to some of the large size Greek firms have the luxury to abandon some traditional methods and experiment some currently developed ones or even implement multiple practices together pending upon their needs.

Comparing future emphasis results with the Finnish firms there are many similarities and some noticeable differences too, such as: activity-based management (ranked 18 for Greece and 37 for Finland), benchmarking with outside organizations (ranked 12 for Greece and 28 for Finland), capital budgeting measures like IRR-NPV (ranked 5 for Greece and 41 for Finland), formal strategic planning (ranked 3 for Greece and 22 for Finland), variable costing (ranked 36 for Greece and 5 for Finland), budget variance analysis (ranked 4 for Greece and 23 for Finland), and employee attitudes (ranked 32 for Greece and 9 for Finland).

Table 6 shows those management accounting practices that have at least a six-point difference in ranking between past benefits and future emphasis (Chenhall & Langfield-Smith, 1998; Hyvonen, 2005). It indicates those practices where firms will increase their emphasis in the future. Rankings also indicate a trend and that relatively more future emphasis will be on currently developed practices and more specifically on: customer satisfaction surveys, activity-based costing, team performance, non-financial measures, activity-based management, product profitability analysis, formal strategic planning, divisional profit, benchmarking of operational processes, absorption or full costing. Decreased emphasis will be more on traditional practices and more specifically on: budgeting for evaluating managers' performance, budget for planning day-to-day operations, variable costing, residual income, budgeting for compensating managers, and long-range forecasting.

This trend is partly consistent with researchers who had predicted a decreasing use of traditional techniques (Johnson, 1992; Kaplan, 1994). Similar trend was reported from Chenhall and Langfield-Smith (1998) for Australia and Hyvonen (2005) for Finland.

4. Discussion about Greek situation

The results presented so far indicate that Finnish manufacturing firms implement more management accounting techniques than the

Table 6
Management accounting practices with at least six-point difference between ranking of past benefits and future emphasis.

T/C[a]	CAT[b]	Management accounting practice	Relative rankings		
			Past benefits	Future emphasis	Difference
Increased ranking					
T	PE	Performance evaluation: customer satisfaction surveys	38	18	20
T	PC	Product costing: activity-based costing	28	14	14
T	PE	Performance evaluation: team performance	36	22	14
C	DS	Activity-based management	29	18	11
T	PE	Performance evaluation: non-financial measures	22	11	11
C	DS	Benchmarking of operational processes	32	24	8
C	LTP	Product profitability analysis	9	1	8
C	LTP	Formal strategic planning	11	3	8
C	PE	Performance evaluation: divisional profit	12	4	8
C	PC	Product costing: Absorption or Full costing	20	13	7
Decreased ranking					
T	B	Budgeting for evaluating managers' performance	7	20	−13
T	B	Budget for planning day-to-day operations	25	34	−9
T	B	Budgeting for compensating managers	16	23	−7
T	LTP	Long range forecasting	13	19	−6
T	PC	Product costing: variable costing	27	36	−9
T	PE	Performance evaluation: residual income	21	29	−8

[a] T = traditional practices, C = currently developed practices.
[b] B = budgeting systems, DS = decision support systems, LTP = long term planning, PC = product costing, PE = performance evaluation.

respective Greek ones. More specifically practices are relatively implemented more in Finland with least implementation rate of 51% and then in Greece with least implementation rate of 45%.

Practitioners preferred the traditional techniques mostly in Greece and less in Finland. However, currently developed techniques received moderate to low rankings in Greece and the implementation rates are higher in Finland, and lower in Greece. This may be due to various reasons. Firstly, as Hyvonen (2005) indicates, time difference in the sample periods between countries is a very good and obvious reason, although the firms in both samples are large-size organizations at unit business level, where the use of advanced techniques is normally expected. This is probably true because usually practitioners in large firms are motivated more (Hyvonen, 2005) to try some new practices.

Secondly, although Greece, in relation to Finland, is an older member of the European Union the development of management accounting, as Venieris (1996) indicates, relies both in cultural and institutional factors. Several researchers present evidence that culture and institutional factors contribute significantly in MAP formation (Brownell, 1985; Hofstede, 1984; Hofstede & Bond, 1988; Merchant, 1984). Fiscal policy and size are the main factors which still affect severely the development of practices. Fiscal policy, for example, affects the development of cost accounting where by law in Greece is full or absorption costing; other costing practices are due to organizations' specific demands or needs. Size is also an important determinant of management accounting practice (Chenhall, 2003; Merchant, 1981). The same applies in Finland, similar findings report Chenhall and Langfield-Smith (1998) for Australia too. Size is an important factor in selected Asian countries too, like Singapore, Malaysia, China and India, (Sulaiman et al., 2004).

The preference of variable costing is not that popular in Greece, due to accounting restrictions for external reporting and is ranked low (23) contrary to Finland which is ranked high (4), as Hyvonen (2005) reports in Finland variable costing is allowed for external reporting.

An older survey for Greece (Ballas & Venieris, 1996) reported that Greek companies have not adopted ABC, while a later one in manufacturing companies reported a 12.7% of ABC implementation (Venieris et al., 2000). Moreover, another quite recent study for Greece (Cohen et al., 2005) shows that 35.7% of manufacturing firms implemented ABC. In their comments conclude that Greek companies that use ABC do not view it as a mean to improving cost measurement accuracy, but they are aware of the fact that ABC can be implemented as a management tool with multiple aims. The present study confirms this increasing trend for Greece where in the current sample the implementation rate has increased to 62% and ranked 21. The past benefits received are moderate (ranked 28) but there is an increasing future emphasis (ranked 14). The respective implementation rates are higher for Finland (ranked 4). Also past benefits for Finland is ranked moderate (30) and the respective future emphasis is increasing (ranked 16). This trend indicates an increasing interest for ABC in both European countries.

The spread of organizations in terms of size gives an opportunity for comparisons. Table 7 presents a classification according to the number of employees. There is important evidence that size is a considerable factor affecting the implementation of more advanced administration systems (Chenhall & Langfield-Smith, 1998; Moors & Chenhall, 1994). Hyvonen (2005) also reports that the larger the firm the more the relative benefits that are derived from the practices.

The present study reports similar results with Hyvonen (2005) in terms of size but vary in terms of practices. The practitioners in the largest firms (>1,000 employees) prefer the traditional practices with the respective future emphasis. Specifically, they reported that they have received more benefits from performance evaluation practices such as: ROI, budget variance analysis, qualitative measures, traditional budgeting and long-term planning techniques such as budgeting for controlling costs, capital budgeting measures like IRR-NPV, budgeting for evaluating managers' performance, budgeting for coordinating activities across the business units.

ROI, budget variance analysis and divisional profit are those practices which will be emphasized more in the future by the large firms. ROI and budgeting for controlling costs, will be emphasized more in the future regardless the size of the organization. Divisional profit will increase its preference by all by all respondents groups. Product profitability is a highly beneficial practice and it will increase its emphasis in the future. Most of the respondents see currently developed techniques like qualitative measures and customer satisfaction surveys beneficial and it will increase their use in the future. Budgeting for evaluating managers' performance will decrease in demand by all practitioners.

5. Conclusion and limitations of this research

The evidences reported in this article refer to the relative implementation, past benefits gained and future emphasis of traditional and currently developed MAP in Greece. These findings are compared with similar previous study in Finland. Across the sample, the majority of the practices surveyed were implemented by most organizations. While the implementation rates for many currently-developed practices were of a high level and similar than those presented in other countries, in total, traditional MAPs were found to be marginally higher implemented than the recently developed ones. However, there is an increasing trend for firms to place greater emphasis in the future on recently developed techniques

Table 7
Management accounting practices: a comparison of most beneficial practices by number of employees.

T/C[a]	Cat[b]	Management accounting practice	Relative benefits — past 3 years								Relative future emphasis — next 3 years							
			Number of employees															
			200–500		501–750		751–1000		>1000		250–500		501–750		751–1000		>1000	
			Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
T	PE	Performance evaluation: ROI	4.22	4	4.24	6	4.29	7	5.00	1	4.67	7	4.88	3	4.64	9	5.00	1
T	B	Budgeting for controlling costs	4.75	2	4.71	2	4.81	1	4.86	2	5.00	1	5.00	1	4.88	2	4.86	2
T	PE	Performance evaluation: budget variance analysis	4.63	3	4.50	4	4.79	2	4.83	3	4.75	5	4.79	6	4.79	6	5.00	1
C	PE	Performance evaluation: qualitative measures	4.75	2	4.53	3	4.53	5	4.71	4	4.88	3	4.90	2	5.00	1	4.86	2
T	LTP	Capital budgeting measures like IRR, NPV	4.78	1	4.89	1	4.77	3	4.67	5	4.89	2	4.83	5	4.77	7	4.67	5
T	B	Budgeting for evaluating managers' performance	3.71	9	4.16	7	4.33	6	4.50	6	4.57	10	4.12	23	4.33	14	4.50	8
T	B	Budgeting for coordinating activities across the business units	4.11	5	4.00	9	4.14	10	4.43	7	4.86	4	4.68	10	4.71	8	4.86	2
T	PE	Performance evaluation: divisional profit	3.86	7	3.47	16	4.57	4	4.40	8	4.86	4	4.71	8	4.86	3	5.00	1
T	LT P	Capital budgeting measures like ROI, payback	4.00	6	4.24	6	4.21	9	4.40	8	4.50	11	4.71	8	4.71	8	4.60	6
C	PE	Performance evaluation: production processes	4.00	6	4.00	9	4.29	7	4.33	9	4.67	7	4.48	13	4.57	11	4.83	3
T	B	Budgeting for planning cash flows	3.75	8	3.80	10	4.07	12	4.33	9	4.71	6	4.50	12	4.13	20	4.33	10
T	LTP	Strategic plans developed with budgets	4.00	6	4.11	8	4.27	8	4.20	10	4.75	5	4.74	7	4.60	10	4.20	13
T	LTP	Long range forecasting	4.22	4	3.63	13	4.07	12	4.20	10	3.89	19	4.32	19	4.64	9	4.20	13
T	LTP	Formal strategic planning	3.67	10	4.26	5	3.93	14	4.00	11	4.89	2	4.86	4	4.80	5	4.86	2
C	PE	Performance evaluation: ongoing supplier evaluations	3.43	15	3.56	14	3.50	19	4.00	11	4.86	4	4.69	9	3.86	24	4.71	4
T	PE	Performance evaluation: cash flow ROI	3.50	14	3.53	15	3.67	18	4.00	11	4.63	8	4.38	18	4.25	15	4.00	15
C	DS	Product profitability analysis	4.22	4	4.24	6	4.06	13	3.86	12	5.00	1	5.00	1	4.81	4	5.00	1
T	PC	Product costing: absorption costing	3.63	11	3.42	18	3.29	23	3.86	12	4.38	14	4.32	19	4.79	6	4.57	7

[a] T = traditional practices, C = currently developed practices.
[b] B = budgeting systems, DS = decision support systems, LTP = long term planning, PC = product costing, PE = performance evaluation.

instead the traditional ones, particularly on performance evaluation techniques.

The first three most beneficial practices are traditional financial measures including capital budgeting measures like IRR and NPV, budgeting for controlling costs, and budget variance analysis. Since firms participated in this survey are large-sized organizations capital budgeting is an important and necessary tool for expansion plans. Also, equally important are the cost control and variance analysis since there are significant capital inflows–outflows. The respective first three for Finland are divisional profit, budgeting for controlling costs, and variable costing (Hyvonen, 2005).

These results partly support older studies undertaken in Europe where they suggest that differences in MAPs are not distinct (Hyvonen, 2005; Lukka & Granlund, 1998; Macintosh, 1998; Shields, 1998). Future emphasis is on Budget variance analysis, Qualitative measures, and Formal strategic planning. Same as Finland, financial measures will be important in the future and also great emphasis will be focused on currently developed techniques. The results indicate that Greece is behind Finland in practicing various techniques.

One main reason that Greek firms exploit the contemporary practices is mostly due to size since large companies have the "luxury" to invest to modern technologies and experiment new trends. Also increased competition among firms creates a more demanding environment and the need for more "specialized" information. In the last fifteen years Greek companies are expanding rapidly in the Balkans and rest of the world. Also foreign companies have created their subsidiaries in Greece. These situations have exposed practitioners to more contemporary practices besides the traditional ones. Another reason is that many Greek nationals study in universities abroad (mainly UK and USA and less to other European countries) where are educated with the latest trends and modern theories and techniques and most of this knowledge comes back in the country.

Finally, there are several limitations in this study. First, the study examines only the firms belonging to the manufacturing sector without making any distinction of the results in each specific industry. This is related to the second stated limitation of the relative small sample size. More sectors and industries could be examined for increasing the generalizability of the study. However, the main reason that forced us to conduct our research to the manufacturing sector only was first, our will to compare the results with another previous research, and second, the limited resources in our disposal (i.e., time and money). Another limitation, as already stated, is the relatively small number of companies participated. Mainly, top financial managers, controllers, and senior management accountants were participated. A larger sample size would provide more explanatory power and greater confidence in the findings. Finally, the research does not suggest specific ordering of implementation (in the practices) that provides maximum benefit.

6. Directions for the future

This article suggests several extensions for future research. One direction involves extending the sample. Both the number of firms and industries could be increased.

Even it is difficult to have both large sample sizes and the volume of information necessary for making correct construct measurements this could be a significant issue to consider. First, tests involving additional organizations in all size categories would increase the sample size and, therefore, allow for more powerful statistical analysis. Second, industry segmentation will provide further insights into the role that industry plays in the relationships outlined in our research. In particular, expansion of the study to industries which face more or less hostile and competitive environments may increase understanding of the respective practices. Also, companies in less hostile environments may implement different practices from those in more aggressive ones.

Next, replicating the quantitative parts of this study with the same sample could also provide insight into the dynamic elements of practices (making a longitudinal research to examine the various

changes through time). It will be a good opportunity to test whether practices change over time. Do practices experience a life cycle of value?

Also, another investigation could explain conditions before and after the implementation of MAP. Further investigation is needed in the nature of the dependence and relevance between traditional and currently developed MAP and other management practices. The lower benefits relating the currently developed techniques focuses on the conditions necessary to effectively implement these practices. Lately, Greece is considered as a developed country. This study is proposed for research in more developed and larger economies just to measure deeper interactions among the practices proposed.

Alternatively could be applied to emerging economies as well to investigate trends in MAP supplemented by other important contingent variables such as strategy, technology, culture, external environment, business unit and industry characteristics, and knowledge and observability factors (Chenhall, 2003; Chenhall & Langfield-Smith, 1998; Fisher, 1995). Finally, a better understanding is necessary of the factors that influence differences in the levels of adoption of recently developed practices between industries and countries.

Appendix A

T/C*	Cat**	Management accounting practice
T	B	Budget for planning day-to-day operations
T	B	Budget for planning financial position
T	B	Budget linking financial position, resources & activities
T	B	Budgeting for compensating managers
T	B	Budgeting for controlling costs
T	B	Budgeting for coordinating activities across the business units
T	B	Budgeting for evaluating managers' performance
T	B	Budgeting for planning cash flows
C	DS	Activity-based management
C	DS	Benchmarking carried out within the wider organization
C	DS	Benchmarking of management processes
C	DS	Benchmarking of operational processes
C	DS	Benchmarking of product characteristics
C	DS	Benchmarking of strategic priorities
C	DS	Benchmarking with outside organisations
T	DS	Cost-volume-profit analysis
C	DS	Economic or shareholder value analysis
C	DS	Operations research techniques
T	DS	Product life cycle analysis
C	DS	Product profitability analysis
T	DS	Target costing
C	DS	Value chain analysis
T	LTP	Capital budgeting measures like IRR, NPV
T	LTP	Capital budgeting measures like ROI, payback
T	LTP	Formal strategic planning
T	LTP	Long range forecasting
T	LTP	Strategic plans developed separately from budgets
T	LTP	Strategic plans developed with budgets
T	PC	Product costing: absorption costing
C	PC	Product costing: activity-based costing
C	PC	Product costing: variable costing
C	PE	Performance evaluation: balanced scorecard
T	PE	Performance evaluation: budget variance analysis
T	PE	Performance evaluation: cash flow ROI
T	PE	Performance evaluation: controllable profit
C	PE	Performance evaluation: customer satisfaction surveys
T	PE	Performance evaluation: divisional profit
C	PE	Performance evaluation: employee attitudes
C	PE	Performance evaluation: non-financial measures
C	PE	Performance evaluation: ongoing supplier evaluations
C	PE	Performance evaluation: production processes
C	PE	Performance evaluation: qualitative measures
T	PE	Performance evaluation: residual income
T	PE	Performance evaluation: ROI
C	PE	Performance evaluation: team performance

* T = traditional practices, C = currently developed practices.
** B = budgeting systems, DS = decision support systems, LTP = long term planning, PC = product costing, PE = performance evaluation.

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