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STRATEGIC PRIORITIES, COMPANY PERFORMANCE AND ATTITUDES
TOWARDS MANAGEMENT ACCOUNTING TECHNIQUES:
AN EMPIRICAL STUDY

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Strategic priorities, company performance and attitudes towards management accounting techniques: an empirical study

Key words: Strategy, management accounting, modern techniques, traditional techniques

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Strategic priorities, company performance and attitudes towards management accounting techniques: an empirical study

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ABSTRACT

The study investigates whether there is an association between different combinations of emphasis on generic strategies (product differentiation and cost efficiency) and perceived usefulness of management accounting techniques. Previous research has found that cost leadership is associated with traditional accounting techniques and product differentiation with a variety of modern management accounting approaches. The present study focuses on the possible existence of a strategy that mixes these generic strategies. The empirical results suggest that (a) there is no difference in the attitudes towards the usefulness of traditional management accounting techniques between companies that adhere either to a single strategy or a mixed strategy; (b) there is no difference in the attitudes towards modern and traditional techniques between companies that adhere to a single strategy, whether this is product differentiation or cost efficiency, and c) companies that favour a mixed strategy seem to have a more positive attitude towards modern techniques than companies adhering to a single strategy.

Keywords: Strategy, management accounting, modern techniques, traditional techniques

1. INTRODUCTION

Several studies have shown that there may be a link between strategic priorities, management accounting practices and organizational performance (e.g., Govindarajan, 1988; Govindarajan and Fisher, 1990; Chenhall and Langfield-Smith, 1998; Greve, 1999; Cagwin, 2000; Cagwin and Bouwman, 2002). Especially inspired by Chenhall and Langfield-Smith's (CLS) study, the present study addresses an issue not explicitly dealt with by them. CLS examine whether higher performing companies that emphasise different generic strategies, the well-known differentiation and cost leadership strategies as classified by Porter (1985), draw benefits from different sets of management accounting practices and management accounting techniques. CLS hypothesise product differentiation to be associated with appreciation of modern techniques such as benchmarking and balanced performance measures. The reason behind this expectation was that product differentiation has an outward, customer-oriented focus, which, according to CLS, require more information than what traditional management accounting techniques can provide. By contrast, CLS hypothesise that higher performing companies favouring a low price strategy tend to draw benefits from approaches focusing on cost efficiency such as "improving existing processes", "manufacturing systems innovations", traditional accounting techniques", and "activity-based costing".

Using survey data collected from the financial officers of 78 Australian industrial companies CLS found support for their hypotheses, but they also obtained an "unexpected result" indicating that improving existing processes and manufacturing systems innovations provide high benefits for more differentiation-oriented companies. In their words, a possible interpretation is that "the most effective product differentiation strategies required existing processes to be highly efficient, thereby successfully containing costs" (CLS, 1998: 253).

In order to better understand the "unexpected result", it may be useful to theoretically and empirically distinguish between companies that adhere to a single differentiation strategy and companies that adhere to a mixed strategy; that is, both product

differentiation and low cost strategies simultaneously. CLS do not draw the latter distinction, but it is obvious that if companies favour a mixed strategy, and if they find traditional techniques useful, it will appear that product differentiation strategy also is associated with appreciation of traditional techniques that emphasise the improvement of internal processes.

These are the main issues that the present study will address. The study will investigate the theoretical justification for the combination of differentiation with cost leadership and empirically study how companies adhering to this combined strategy versus a single differentiation or cost leadership strategy view the usefulness of traditional and modern techniques. Because of the exploratory nature of the study, research questions will be formulated rather than hypotheses.

2. RESEARCH QUESTIONS

A conceptual model of competitive strategy proposed by Gilbert and Strebel (1987) may serve as a useful backdrop for a discussion leading to the formulation of research questions. A version of this, modified for our purposes, is shown in Figure 1.

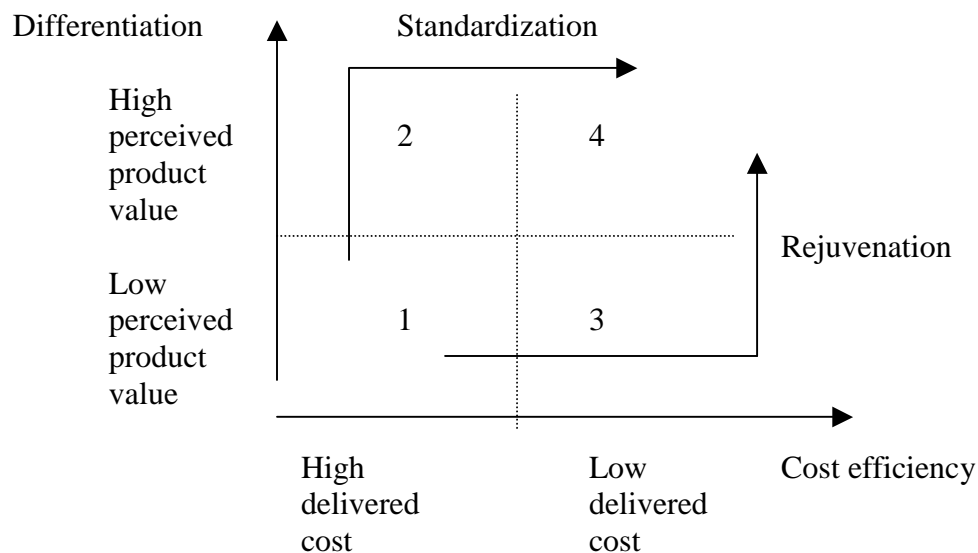


Figure 1: Classification of companies into four quadrants by emphasis on generic strategy

Conveying a dynamic view of Porter's two generic strategies, Figure 1 shows how companies can add one strategy to the other at certain stages in the evolution of the market for their products and services. The model shows how companies can position themselves in a two-dimensional space with perceived product value achieved through various means of differentiation as one of the dimensions, and delivered cost as the other dimension. Gilbert and Strebel envision two alternative routes to winning the strategy. One route proceeds from an early emergence phase in which successful companies base their strategy on 'high perceived product value', associated with innovation and differentiation. As the unique product characteristics that are so typical of this phase become commonly accepted and expected, standardization occurs, which is the turning point in the strategic game. As standardization will be followed by price competition, the route of a winning strategy will then turn towards cost efficiency ('low delivered cost'), maintaining at the same time the high perceived product value achieved earlier.

The general prerequisite of the second route towards outpacing the competition is that standardization has already set in. This enables low cost producers to enter the market. Their route will start from 'low delivered cost' and proceed to 'high delivered value' while maintaining high cost efficiency. The transition to high delivered value occurs through a process of incremental rejuvenations involving "differentiating and tailoring the product to meet the need of different end user segments". In a product life cycle context, this rejuvenation seems to correspond to the revival phase in the well-known model of five life stages (birth-growth-maturity-revival-decline) developed by Miller and Friesen (1984).

The final outpacing stage in both cases, then, seems dependent on the company's ability to enhance the product's attractiveness in the eyes of the customer, while at the same time maintaining a low-cost process. However, this may not be as generally accepted or obvious as it seems; there is some controversy over the issue whether a low price strategy and product differentiation can be combined. Referring to Hall (1980), Porter (1985), and Gilbert and Strebel (1987), Kald et al. (2000: 199) claim that "a strategy that combines differentiation and cost leadership is not considered feasible for any

length of time.” The reference to Gilbert and Strebel may stem from their definition of an outpacing strategy as “the explicitly developed capacity, depending on the competitive situation, to switch strategic emphasis between perceived product value and process cost reduction” (Gilbert and Strebel, 1987: 28). They also state that “only the best companies can implement a pure outpacing strategy, holding superior performance constant on one of the two strategic dimensions while improving on the other” (Gilbert and Strebel, 1987:34). This suggests that a move can only take place along one dimension at a time. However, Gilbert and Strebel (1987: 36) clearly envision a combination of strategies by concluding that although creating product value is based on other organizational requirements than the reduction of costs, “the winning companies manage to combine both in their outpacing strategies.” In a later article, Porter (1996: 62) also seems to envision the possibility of a mixed strategy by stating that “it (a company) must deliver greater value to customers or create comparable value at a lower cost, or do both.” Referring to Japanese companies, Shank & Govindarajan (1993: 50) also point out the possibility of a mixed strategy.

It seems evident that the received opinion among these and other leading writers now is that winning companies in rapidly evolving industries must be able to combine both high product value creation and cost reduction (see also Gilbert and Strebel, 1989; Cooper, 1996: 220; Hamel and Prahalad, 2000: 125).

In sum, the Gilbert-Strebel model suggests that companies can be classified into four main groups, each representing one of the quadrants in Figure 1:

- Group 1: Low perceived product value - high delivered cost
- Group 2: High perceived product value - high delivered cost
- Group 3: Low perceived product value - low delivered cost
- Group 4: High perceived product value - low delivered cost

The formulation of research questions will focus on expected differences between these four groups in terms of how useful different management accounting are perceived to be, but we will use the widely accepted term ‘differentiation’ as synonymous with ‘high

perceived product value', and 'cost efficiency' or 'low cost' as synonymous with 'low delivered cost'.

It is not easy to predict how the perceptions of the usefulness of the management techniques are associated with the strategic positions that the four groups represent, because the existing theory concerning the association between strategic position and the choice of management techniques is rather sketchy. The article by Kald et al. (2000: 202), cited above, provides an overview of some of the most well known empirical studies concerning the relationship between strategic priorities and management accounting practices.

Kald et al. develop a conceptual model that combines Miles and Snow's (1978) classification of strategic patterns, 'prospectors' and 'defenders', with the strategic missions 'build', 'hold' and 'harvest' phases of the product life cycle, which, in turn, steer the utilization of the two generic strategies or strategic positions 'differentiation' and 'cost leadership'. With this model, Kald et al. predict the sequential use of two types of management control systems (loose/tight control) according to the supposed sequential change in strategic position (cost leadership/differentiation) depending on which strategic mission (build/hold/harvest) the prospectors and defenders are supposed to execute. The prospectors are supposed to move from loose to tight control as they move from a build (differentiation) to a hold (cost leadership) phase while the defenders are supposed to move from tight to loose control systems as they go on from a harvest (cost leadership) to a hold phase (differentiation). The apparent relationship between this classification and the previously described model developed by Gilbert and Strebels (1987) is obvious. The differentiation - cost leadership route in the Gilbert and Strebels-model seems to be very much the same as that of prospectors in the Kald et al. model. Correspondingly, it seems easy to recognize the presumed strategic behaviour of the defenders as quite the same as that of companies following the cost leadership - differentiation (rejuvenation) route.

Given the link between the Gilbert-Strebels model and the Kald et al. model, it would appear that the latter could shed some light on the link between strategic orientation and

perceived useful of management accounting techniques. The classification of management control systems into the two main categories “loose” and “tight” control has also been used previously by Dent (1990) and Anthony, Dearden and Govindarajan (1992/1998), among others. The problem is, however, that the terms “loose” and “tight” are rather vague. At any rate, it is difficult to classify different management accounting methods into these categories, because it is not the methods as such that are loose or tight; it is how they are used as instrument of management control that is the crucial question.

An alternative approach may be to focus on the need for change of management accounting methods facing companies that adhere to different strategies. Despite having been subjected to heavy criticism by academics and management consultants, traditional management accounting methods, such as the annual budget, may still have a significant role to play as a tool for managing resources, regardless of strategic orientation. In illustrating the meaning of “loose” and “tight” control Anthony and Govindarajan (1998: 436-37) also refer to differences in the budget control approach. Tight control is associated with evaluation of the ability “to attain budgetary objectives during each reporting period”, whereas loose control is associated with the fact that “the budget is used essentially as a communication and planning tool”. In both cases, however, the very basic form of traditional methods, that is to say, ‘budgeting’, seems to be of central interest. Focusing on traditional techniques, research question 1 can be formulated as follows:

Research question 1: Is there a difference in the perceived usefulness of traditional management accounting techniques between companies that place strong emphasis on a single strategy - either (1) differentiation or (2) cost efficiency - and (3) companies that place strong emphasis on both differentiation and cost efficiency?

The aim of a differentiation strategy is to exploit market imbalances by introducing new or renewed products. To this end, companies that adhere to this type of strategy must focus on aspects such as customer value, supplier value, knowledge management, business organization, intellectual assets, and empowerment. Modern methods, such as

the balanced scorecard, benchmarking, total quality management, economic value added, etc. should be better suited to handle these aspects than traditional methods. Companies adhering to a single differentiation strategy would therefore be expected to find modern methods more useful than companies adhering to a single cost efficiency strategy. Based on this reasoning, research question 2 can be formulated as follows:

Research question 2: Do companies adhering to a single differentiation strategy tend to find modern methods more useful than companies adhering to a single cost efficiency strategy?

As for mixed strategy companies, it could be argued that these would find modern management accounting techniques even more useful than companies adhering to a single differentiation strategy because the former type of companies may face stiffer competition than the latter. This is based on the assumption that competition is stiffer during and after the standardization phase than before it has started. Research question 3 addresses this issue:

Research question 3: Do companies adhering to a mixed strategy tend to find modern methods more useful than companies adhering to a single predominant strategy, regardless of whether this is product differentiation or cost efficiency?

In addition to finding out whether there are differences in attitudes towards different techniques that can be related to different strategic orientations, we are also interested in the question whether there is an association between these orientations and company performance. Performance can be expressed in many ways, but here we focus on two main categories: financial performance and growth. Of special interest is the question whether outpacing, the final stage in the strategic development involving a combination of differentiation and cost efficiency, outperforms the single strategy stages differentiation or cost efficiency.

Research question 4: Do companies adhering to a mixed strategy perform better in terms of profitability and growth than companies adhering to a

single, predominant strategy, regardless of whether this is product differentiation or cost efficiency?

It is also of interest to find out whether there are differences in terms of different aspects of performance when it comes to the single strategies. The pre-standardization single strategy differentiation should generally be associated with expansion on the company level, which may have a certain detrimental effect on profitability. In contrast, the post-standardization single strategy, cost efficiency, can be expected to be associated with profitability. Research question 5 addresses these expectations.

Research question 5: Do companies adhering to a single product differentiation strategy perform better than companies oriented towards a single cost efficiency strategy in terms of growth but worse in terms of profitability?

3. RESEARCH METHOD

Data collection

Empirical data were collected through a mail survey. Questionnaires were sent to the chief financial officers of the 500 largest limited companies in Finland. The questionnaire items are shown in Appendix 1. A pilot study was considered unnecessary because the questionnaire items were borrowed from previous studies (primarily CLS, 1998, and Greve, 1999). There was only one mail-out. The total number of questionnaires returned was 145, a total response rate of 29%. All respondents did however not answer all questions, which means that the response rate was lower than the total response rate for certain items. Because the respondents were guaranteed full anonymity, the questionnaires did not include any information that could have made it possible to find out who responded and who did not.

Measurement of variables

Strategy variables

As indicated by the hypotheses, variables need to be defined that make it possible to distinguish between companies oriented towards either product differentiation or cost

efficiency, or both. With a survey study in mind, it then becomes necessary to select items representative of these generic strategies. The main characteristic of differentiation is that it aims to create value that is perceived as unique by the customers. Contributing to uniqueness are such things as brand image, distribution, service, quality, and product attributes. By contrast, cost efficiency is a more straightforward concept: the degree to which inputs per unit of output are low (Hambrick, 1983: 689). Ten items borrowed from the questionnaire used by CLS were selected in the belief that these capture the essential aspects of the two generic strategies. This group of items was headed by the text (Question 2): “In order to gain competitive advantages a company can choose several strategies. Please rate the importance to your company of the strategies listed below.” The respondents were asked to rate the items on a seven-point Likert scale, with 1 denoting “very small weight”, and 7 “very high weight”. In order to find out whether data reduction was possible, a principal component analysis was performed. The results, with items sorted by loadings and excluded in case of lower loadings than 0.5, are shown in Appendix 2a.

As can be seen from Appendix 2a, principal component analysis using Oblimin rotation with Kaiser normalization classifies the ten strategy items into four components. Component 1 groups together three items, the common denominator of which seems to be good customer service. It may be somewhat questionable to use these three items to form a variable because Cronbach alpha, which is a measure of the reliability of summated items, is rather low, only 0.5764. However, this measure is known to be sensitive to the number of items that are included in the summated variable, and with only three items the resulting alpha can be rather low. Since this an exploratory study, it was decided to use component 1 as a summated variable under the name of SERVICE. The values assigned to this variable were computed as the mean ratings of the three items.

Component 2 also includes three items; however, all items do not have the same signs, indicating a negative correlation between emphasis on unique products and low prices. because of the different signs, only the items with a common sign were merged into one variable, that is, ‘unique product’ and ‘tailor-made products’ were grouped together,

whereas 'low prices' was used a separate variable. The two variables, thus formed, were referred to as UNIQUE and LOW PRICE, respectively. The mean ratings of the two items included in the variable UNIQUE, were used as the values of this variable.

Component 3 contains the two items 'quick product-mix changes' and 'quick design changes'. This component was given the variable name FLEXIBILITY and assigned the mean ratings of the items as values. Cronbach alpha is not computed for a summated variable consisting of only two items.

Component 4 included two items: 'low production costs' and 'investment in quality'. Since the former primarily represents cost efficiency and the latter is a characteristic of product differentiation, these items were used as separate variables under the names of LOW COST and QUALITY.

Performance variables

A slightly abridged version of an instrument developed by Govindarajan (1988) and Govindarajan & Fisher (1990) was used to elicit assessments of company performance. The respondents were exposed to seven items representing different aspects of performance. The questionnaire question (Question 3) heading the items was formulated as follows: "Please assess the performance of your company in relation to the industry average." Each item was accompanied by a 7-point scale, with point 1 anchored as "considerably worse than the industry average", and point 7 as "considerably better than the industry average".

The respondents were also asked (Question 4) to weight the importance of each of these items on a 7-point scale, with point 1 denoting "no importance" and 7 "of decisive importance". For each item the responses to questions 3 and 4 were multiplied, and the resulting product divided by seven, the highest point on the scales. Based on these transformed ratings, principal component analysis was performed to see whether the data allow reduction of variables. The results are shown in Appendix 2b (the symbol $q_{3/4}$ refers to the transformed item ratings).

The principal component analysis of the performance items indicates the existence of three components. The first component includes three items, the common denominator of which is the word 'development'. The variable name DEVELOPMENT was therefore chosen for this component. Cronbach alpha for these items was equal to 0.6696, which may be reasonable considering the small number of items included in the component.

Two financial items make up the second component: 'cash flow' and 'return on investment'. For this component the label FINANCIAL was used. The third component includes the items 'increase in turnover' and 'market share'. This component will be referred to as GROWTH. Thus, there are two variables that represent the performance indicator growth.

Management accounting practices and techniques

Leading textbooks on management accounting were consulted for the selection of practices and techniques. The names of twelve practices and techniques were selected as questionnaire items, including four traditional and eight "modern" ones ("modern" referring to practices and techniques that have become popular in the last twenty years or so). These items were headed by the question (Question 5): "How useful has the following practices and techniques been to the business unit you represent during the last year? Point 1 on the scale was anchored as "no usefulness" and point 7 as "high usefulness". These items were also analyzed using principal component analysis. The results are shown in Appendix 2c.

As is evident from Appendix 2c, three components crystallized. The common denominator of the items included in the first component is that the names suggest a set of techniques, not just one individual technique. This component, which include the items 'shareholder value analysis' (SVA), benchmarking' (BM), 'total quality management (TQM), and 'value chain analysis' (VCA), was given the label MODERN TECHNIQUES I. As for the second component, it can be seen that all the four selected traditional techniques - 'standard costing', 'conventional overhead costing', 'the traditional, annual budget', and 'budget variance analysis' load on this. The label

TRADITIONAL will accordingly be assigned to this component or variable. The third component includes three modern techniques - activity-based costing (ABC), the balanced scorecard (BSC), and economic value added (EVA) - that have dominated management accounting textbooks for more than a decade. This component will therefore be referred to as MODERN TECHNIQUES II. All three variables were assigned values computed as the mean ratings of the items included in the respective components.

4. RESULTS

Descriptive statistics

Table 1: The selected variables with descriptive statistics

	Mean	Standard deviation
Strategic priorities		
1 - SERVICE	6.2269	0.5681
2 - UNIQUE	4.9371	1.3620
3 - LOW PRICE	4.0350	1.3861
4 - FLEXIBILITY	3.4529	1.4218
5 - LOW COST	5.0355	1.2559
6 - QUALITY	6.1310	0.9520
Performance		
7 - DEVELOPMENT	3.5694	1,10169
8 - FINANCIAL	3.9946	1.35952
9 - GROWTH	3.7475	1.26707
Practices and techniques		
10 - MODERN TECHNIQUES I	4.1319	1.17760
11 - MODERN TECHNIQUES II	3.4377	1.34551
12 - TRADITIONAL	4.2168	1.09012

As is evident from Table 1, the variables SERVICE and QUALITY received high mean ratings, with relatively low dispersion around the means, indicating that most respondents find these important, which also signals that these aspects of product differentiation may not be used to separate groups of companies with different emphasis on the generic strategies from one another. As for the performance variables, it can be seen that the mean ratings are quite low, but the relatively large standard deviations suggest that there is considerable variation in the ratings. The same can be observed for the practice and technique variables, with the lowest mean and the highest standard deviation for MODERN TECHNIQUES II.

Cluster analysis

In order to test the hypotheses, the respondents need to be classified into groups according to emphasis on a single generic strategy or both at the same time. The point of using cluster analysis in a study of this kind is that it may provide an insight as to which combination or profile of strategic priorities, company performance variables and technique variables are prominent in groups of companies that roughly correspond to the quadrants in Figure 1 (cf. Hambrick, 1983; Chenhall & Langfield-Smith, 1998).

A problem with cluster analysis is the fact that the analyst is required to specify the number of clusters to request. An additional problem in this case is that we need to identify at least a differentiation profile, a low cost profile, and a mixed profile, and, for the sake of comparison, a profile with emphasis on neither differentiation, nor low cost. The analyst has no real control over this; the profiles must be found, if they can be found, by requesting different numbers of clusters.

Cluster analysis of cases can be carried out using two main methods: hierarchical clustering and k-means clustering. The advantage of the former is that it produces agglomeration coefficients that can be plotted graphically and a dendrogram which may give an idea of a suitable number of clusters. The disadvantages are that this method is unwieldy, if the number of cases is large, and even if a suitable number of cases is indicated, there is no guarantee that the clusters can be identified as the distinct profiles

needed for the tests of the hypotheses. We therefore chose to employ k-means clustering since this a method that can quickly produce different numbers of clusters.

Obviously, the requested number of clusters should be at least four, the number of quadrants in Figure 1. The upper limit on the number of clusters is debatable, but it is obvious that it should not be very high, because if the cases are distributed over many clusters, the number of cases in individual clusters may become very small. We therefore decided to set the upper limit at six clusters. It turned out that if four clusters are requested, it was possible to identify clusters that are significantly different in terms of emphasis on either product differentiation or low, or both at the same time. The final clusters centers (means) and rankings of the variables across clusters are displayed in Table 2.

Table 2: Cluster means and rankings of variables across clusters

	Cluster			
	C1	C2	C3	C4
Strategy:				
SERVICE	6.15 (2)	6.34 (1)	5.87 (4)	6.09 (3)
UNIQUE	5.46 (2)	5.66 (1)	3.40 (4)	3.82 (3)
LOW PRICE	3.35 (4)	3.51 (3)	5.60 (1)	5.20 (2)
FLEXIBILITY	3.23 (2)	4.24 (1)	1.70 (4)	2.83 (3)
LOW COST	4.48 (3)	5.43 (1)	4.20 (4)	5.30 (2)
QUALITY	6.30 (2)	6.40 (1)	5.60 (4)	5.90 (3)
Performance:				
DEVELOP	3.59 (2)	4.35 (1)	2.00 (4)	2.97 (3)
FINANCIAL	3.44 (3)	4.89 (1)	2.83 (4)	4.36 (2)
GROWTH	3.76 (2)	4.41 (1)	2.16 (4)	3.11 (3)
Practices and techniques:				
MODERN TECHNIQUES I	3.88 (3)	4.94 (1)	1.65 (4)	4.03 (2)
MODERN TECHNIQUES II	3.05 (3)	4.54 (1)	1.33 (4)	3.37 (2)
TRADITIONAL	4.05 (3)	4.69 (1)	3.40 (4)	4.16 (2)
Number of cases	46	35	5	30

Cases were excluded listwise, meaning that only those cases (respondents) that responded to all the selected variables were included in the analysis. This resulted in the loss of 29 cases; 116 cases remained.

Visual inspection of Table 2 suggests that cluster C2 can be taken as a mixed strategy. The profile of rankings of the variables shows that this cluster is at the top in terms of all variables except low price. In order to investigate whether there are clusters that are more oriented towards a single strategy, the strategy variables for the clusters C1 and C4 were subjected to t-tests. Because cluster C5 only contains five cases, this cluster was excluded from further consideration. The results of the t-tests are shown in Table 3.

Table 3: T-tests of mean differences between clusters C1 and C4

Strategy variables	Cluster	Cluster	Mean difference	Std. error	Sig.
Product differentiation:					
SERVICE	C1	C4	0.0633	0.1319	0.998
UNIQUE	C1	C4	1.6399	0.2465	0.000***
FLEXIBILITY	C1	C4	0.3949	0.3099	0.752
QUALITY	C1	C4	0.4043	0.2006	0.263
Cost efficiency:					
LOW COST	C1	C4	-0.8217	0.2686	0.020*

***, **, * Denote significance at the 0.001, 0.01, and 0.05 levels, respectively.

It is evident from Table 3 that the only significant differences between clusters C1 and C4 are in terms of the variables UNIQUE and LOW COST. Since these are the main characteristics of product differentiation and cost efficiency, respectively, we classify the two clusters accordingly. However, it must be pointed out that companies leaning towards cost efficiency also emphasize some aspects of product differentiation, although not the main one, uniqueness.

The data in Table 4 provide test results in connection with research question 1.

Table 4: T-tests of differences in perceived usefulness of management accounting techniques between companies adhering to different strategies

Pairwise comparison	Cluster	Cluster	Mean difference	Std. error	Sig.
a) Mixed vs. single (product differentiation):					
MODERN TECHNIQUES I	C2	C1	1.0607	0.2104	0.000***
MODERN TECHNIQUES II	C2	C1	1.4921	0.2348	0.000***
TRADITIONAL	C2	C1	0.6368	0.2282	0.039*
b) Mixed vs. single (cost efficiency)					
MODERN TECHNIQUES I	C2	C4	0.9024	0.2275	0.001***
MODERN TECHNIQUES II	C2	C4	1.1762	0.2606	0.000***
TRADITIONAL	C2	C4	0.5274	0.2614	0.257
c) Single (product differentiation) vs. single (cost efficiency)					
MODERN TECHNIQUES I	C1	C4	-0.1583	0.2353	0.985
MODERN TECHNIQUES II	C1	C4	-0.3159	0.2888	0.858
TRADITIONAL	C1	C4	-0.1094	0.2592	0.999

***, **, * denote significance at the 0.001, 0.01, and 0.05 levels, respectively.

Research question 1 addresses the issue whether there are no differences in terms of appreciation of traditional techniques between the clusters of companies classified by degree of emphasis on strategy. The test results reported in Table 4 suggest that such a

difference exists for the pair mixed strategy vs. single (product differentiation) strategy. This is, however, inconsistent with the fact that no significant differences can be observed for the two other pairs occurring in Table 4. Since a mixed strategy is associated with the same degree of perceived usefulness of management accounting techniques as a single cost efficiency strategy, and since there is no difference between the two single strategies, there should not be a difference between a mixed strategy and a single product differentiation strategy either. Consecutive pairwise comparisons can lead to inconsistencies of this kind. Obviously, a conservative interpretation of the pairwise comparisons would be that there is no difference in terms of the appreciation of traditional techniques between the three strategies.

Research question 2 asks whether companies that adhere to a single differentiation strategy tend to find modern methods more useful than companies adhering to a single cost efficiency strategy. As indicated by the data in Table 4, there is no support for this.

Research question 3 concerns the issue whether companies adhering to a mixed strategy find modern methods more useful than companies adhering to a single predominant strategy, regardless of whether this is product differentiation or cost efficiency. The data shown in Table 4 strongly suggest that this is the case for both groups of techniques and both types of single strategies.

Research questions 4 and 5 concern company performance. Results of t-tests conducted with a view to answering these questions are shown in Table 5.

Table 5: T-tests of differences in performance between companies adhering to different strategies

Pairwise comparison	Cluster	Cluster	Mean difference	Std. error	Sig.
a) Mixed vs. single (product differentiation):					
DEVELOP	C2	C1	0.7579	0.1911	0.001***
FINANCIAL	C2	C1	1.4544	0.2747	0.000***
GROWTH	C2	C1	0.6499	0.2469	0.060
b) Mixed vs. single (cost efficiency):					
DEVELOP	C2	C4	1.3819	0.2333	0.000***
FINANCIAL	C2	C4	0.5367	0.2961	0.372
GROWTH	C2	C4	1.2990	0.2712	0.000***
c) Single (product differentiation) vs. single (cost efficiency)					
DEVELOP	C1	C4	0.6239	0.2125	0.029*
FINANCIAL	C1	C4	-0.9177	0.2738	0.008**
GROWTH	C1	C4	1.2990	0.2712	0.000***

***, **, * denote significance at the 0.001, 0.01, and 0.05 levels, respectively.

Research question 4 concerns whether mixed strategy companies perform better than companies adhering to a single strategy, regardless of which this is. The data in Table 5 give mixed support for this. The mixed strategy group performs better than the product differentiation group in terms of development and finance but not in terms of growth. In comparison with the cost efficiency group, the mixed group performs better in terms of development and growth but not finance.

As for research question 5, which asks whether companies adhering to a single product differentiation strategy perform better than companies adhering to a single cost efficiency strategy in terms of growth but worse in terms of profitability, it can be observed that the test results support this: there are significant differences in favour of

product differentiation in terms of development and growth, and in favour of cost efficiency in terms of financial performance.

5. DISCUSSION

From the perspective of traditional techniques, the results suggest that traditional techniques are still going strong and appreciated to the same degree regardless of strategy. It is interesting to note that this also applies to companies oriented towards a single product differentiation strategy. This suggests that resource administration with the aid of traditional techniques is still needed in companies strongly oriented towards development and growth.

From the perspective of modern techniques, two observations can be made: 1) mixed strategy companies place more emphasis on these techniques than companies that pursue a single strategy; and 2) companies pursuing a single strategy show no differences between themselves in their appreciation of these techniques. A possible interpretation of the first observation would be, as mentioned earlier, that the tough competition facing companies during and after the standardization phase induces appreciation of modern techniques that have qualities beyond the ones possessed by the traditional techniques that are focused on resource administration. The second observation is interesting from the point of view that companies focusing on a single low cost strategy seem to appreciate modern techniques as much as companies focusing on a single product differentiation strategy. Thus, the comparison of these two types of company suggests that low cost companies also need modern techniques, whereas product differentiation companies also need traditional techniques.

In interpreting these results, some caveats are necessary. An apparent limitation of the study concerns the method of collecting data. The use of Likert scales and the procedures employed to measure the variables can be criticised as being subjective. A survey questionnaire may provide some useful initial insights and may be able to pinpoint future avenues for research, but it is clear that there is a need for more in-depth studies based on interviews and field research.

Another limitation that points to a possible avenue for future research derives from the fact that the present study does not attempt to probe into the dynamic nature of the Gilbert-Strebel model. The study only provides a snapshot of the situation as it was when the respondents completed the questionnaires. In addition, the study does not provide information regarding the route followed by companies that strive to reach the outpacing quadrant by using a mixed strategy. Since there are different routes along which companies can arrive at such a strategy, according to the Gilbert-Strebel model, a sub-division of companies that have reached this quadrant could be contemplated in future research. The question is whether there is a difference in the perceived usefulness management accounting techniques between companies where differentiation precedes cost leadership (prospectors) and companies where cost leadership differentiation (defenders).

6. SUMMARY

Focusing its main interest on the association between combinations of two generic strategies - differentiation and cost efficiency - and the perceived usefulness of twelve management accounting techniques as well as company performance, the present study investigated five research questions. The results can be summarized as follows:

- 1) strategic orientation does not seem to be a discriminating factor in the perception of the usefulness of traditional management accounting techniques;
- 2) there does not seem to be any difference in attitudes towards management accounting methods between companies that adhere to a single, predominant strategy, whether this is product differentiation or cost efficiency;
- 3) there seems to be a significant linkage between an orientation towards a mixed strategy and positive attitudes towards modern techniques;
- 4) a mixed strategy is associated with higher performance than both of the other two strategy orientations only in terms of development; and

5) a single strategy, predominantly oriented towards product differentiation, is associated with higher performance in terms of development and growth than a single strategy that is predominantly oriented towards cost efficiency, the reverse being true when performance is measured by financial indicators.

APPENDIX 1. Questionnaire questions and items

(Translation from the Swedish)

Q1. Which is the respondent's position in the company?

Q2. In order to gain competitive advantages a company can choose several strategies. Please rate the importance to your company of the strategies listed below.

(7-point scale: 1 = very small weight; 7 = very high weight)

- a) investment in quality
- b) low production costs
- c) unique products
- d) low prices
- e) quick design changes
- f) quick product-mix changes
- g) quick deliveries
- h) stick to delivery promises
- i) provide good service
- j) tailor-made products

Q3. Please assess the performance of your company in relation to the industry average. (7-point scale: 1 = "considerably worse than the industry average"; 7 = "considerably better than the industry average")

- a) increase in turnover
- b) market share
- c) return on investment (ROI)
- d) cash flow
- e) development of new products
- f) development of new markets
- g) personnel development

Q4. How important is for your company to be successful in terms of these aspects? (7-point scale: 1 = "no importance"; 7 = "of decisive importance")

- a) increase in turnover
- b) market share
- c) return on investment (ROI)
- d) cash flow
- e) development of new products
- f) development of new markets
- g) personnel development

Q5. How useful has the following practices and techniques been to the business unit you represent during the last year?

(7-point scale: 1 = “no usefulness”; 7 = “high usefulness”).

- a) activity-based costing
- b) the balanced scorecard
- c) target costing
- d) economic value added (or residual income)
- e) benchmarking
- f) total quality management
- g) shareholder value analysis
- h) value chain analysis
- i) the traditional, annual budget
- j) budget variance analysis
- k) standard costing
- l) conventional overhead costing

APPENDIX 2. Results of principal component analysis

a) Pattern matrices resulting from principal component analysis of strategic priority items (rotation method: Oblimin with Kaiser normalization; the questionnaire items are ordered by the size of the component loadings; loadings less than 0.5 are excluded)

Strategic priority items	Component			
	1	2	3	4
q2h: 'stick to delivery promises'	0.805			
q2i: 'provide good service'	0.734			
q2g: 'quick deliveries'	0.601			
q2c: 'unique products'		-0.740		
q2j: 'tailor-made products'		-0.660		
q2d: 'low prices'		0.628		
q2f: 'quick product-mix changes'			0.861	
q2e: 'quick design changes'			0.811	
q2b: 'low production costs'				0.807
q2a: 'investment in quality'				0.697

C. alpha = 0.5764

b) Pattern matrices resulting from principal component analysis of performance items (rotation method: Oblimin with Kaiser normalization; the questionnaire items are ordered by the size of the component loadings; loadings less than 0.5 are excluded)

Performance items	Component		
	1	2	3
q3/4e 'development of new products,	0.826		
q3/4f 'development of new markets'	0.774		
q3/4g 'personnel development'	0.712		
q3/4d 'cash flow		-0.945	
q3/4c 'return on investment'		-0.896	
q3/4a 'increase in turnover'			-0.889
q3/4b 'market share'			-0.867

C. alpha = 0.6696

c) Pattern matrices resulting from principal component analysis of practice and technique items (rotation method: Oblimin with Kaiser normalization; the questionnaire items are ordered by the size of the component loadings; loadings less than 0.5 are excluded: item q5c, 'target costing', was excluded due to this)

Practice and technique items	Component		
	1	2	3
q5g 'shareholder value analysis'	0.871		
q5e 'benchmarking'	0.767		
q5f 'total quality management'	0.691		
q5h 'value chain analysis'	0.596		
q5k 'standard costing'		0.821	
q5l 'conventional overhead costing'		0.702	
q5j 'the traditional, annual budget'		0.650	
q5 'budget variance analysis'		0.617	
q5a 'activity-based costing'			0.823
q5b 'the balanced scorecard'			0.724
q5d 'economic value added'			0.609
Cronbach alpha	0.7716	0.6475	0.6760

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