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An Empirical Investigation of the Principal Top Management Styles in the Emphasis of Multiple Forms of Controls

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Abstract

This study offers empirical evidence of the principal top management styles in the emphasis of multiple forms of controls. In particular, it analyzed the principal styles in how top managers emphasize financial, nonfinancial and selected behavioral controls in the performance evaluations of foreign subsidiary managers and whether the different styles result in performance differences. Hypotheses were tested, using cluster analysis and analysis of variance, with documentary and survey data collected from business unit top managers of multinational companies headquartered in Finland. The main results identify, describe and profile a total of six principal styles in the emphasis of financial, nonfinancial and behavioral controls. Overall, the results suggest that managers differ significantly in the way they emphasize controls and that all styles are not as effective in enhancing performance.

Keywords: behavioral control, financial control, management styles, multinational companies, nonfinancial control, performance evaluation, performance measures

1. Introduction

A large body of accounting research has explained the use of various kinds of controls and performance measures in organizations. As a result of the empirical research on output and behavioral controls, many possible outcomes of, and factors affecting and moderating, the use of such controls are evidenced in the literature (Abernethy and Brownell, 1997; Abernethy and Stoelwinder, 1995; Eisenhardt, 1985; Kihn, 2001, 2007a, 2007b, 2008; Kren and Kerr, 1993). Likewise, research on strategic performance management systems (e.g., Goold and Quinn, 1990; Kaplan and Norton, 1992, 1996; Lynch and Cross, 1991; Smith 1995), has explained how various kinds of financial and nonfinancial performance measures have been used in various circumstances. Behavioral accounting research has distinguished various ways in how people utilize accounting information (see Deegan, 2004 and Macintosh, 1991 for literature reviews). However, empirical evidence on the different styles individual managers have in using multiple types of controls and performance measures is still sparse, despite the fact that the question as to how various controls should be weighed to improve performance has been identified as a problematic issue for managers using multiple controls (Dilla and Steinbert, 2005; Ittner and Larcker, 1998; Ittner, Larcker, and Meyer, 2003; Lipe and Salterio, 2000; Nørreklit, 2000). This paper aims to address that gap.

The objective of this study is to empirically analyze: (1) the principal styles in how top managers emphasize various forms of controls, and (2) whether the different styles result in performance differences. Whilst various classifications have been developed in previous research, the formal controls examined in this study include 'output' and 'behavioral' controls (Ouchi, 1979; Thompson, 1967). This classification is based on the notion that the two aspects of people's work that can be controlled are their outputs and behavior. Consequently, managerial performance evaluations can be outcome- and/or behavior-based. Examples of financial (output) controls are profit, return-on-investment, and residual income. Nonfinancial (operational output) controls include, for example, market share, quality, production volume and customer satisfaction. In this study on multinational companies, behavioral controls refer to, for example, whether people *follow* rules and procedures,

achieve cost budgets and production standards, and *present* expenditure cutting proposals. Hence, the examined ‘output’ and ‘behavioral’ controls are used synonymously with ‘results’ and ‘action accountability’ controls¹ (Merchant and Van der Stede, 2007).

Top management’s emphasis on financial, nonfinancial and behavioral controls is examined in the performance evaluations of foreign subsidiary managers in Finnish-based multinational companies. Based on their emphasis on the three types of controls examined, managers are classified into various groups, each of which shares a relatively similar emphasis on the controls. Each of the groups is profiled based on selected key organizational and individual level background variables such as extent of business unit profitability, size, worldwide operations, manager’s work experience and age.

The main contribution of this study is that it is the first to identify the principal top management styles in the simultaneous use of financial, nonfinancial and behavioral controls and performance measures. It also contributes to our knowledge by exploring the question of whether different styles result in performance differences. As a result of this study, a total of six principal performance evaluation styles are identified, described and profiled and certain performance consequences are proposed. These results are important in that they improve understanding of the various ways people can use information in performance evaluation decisions and its implications. Whilst the results cannot be generalized to other populations, Finnish-based multinational companies provided a fruitful developed-country context to explore these questions of great importance to many multinational companies and countries.

Note that Finnish companies are probably quite similar with other developed western companies in many characteristics, such as goals and structural properties, since Finnish business studies and Finland’s educational system have already long been strongly influence by western countries (Pihlanto, 1986).

The next section offers a review of the literature leading up to the development of the research propositions. The sample, measures and statistical methods are described thereafter, followed by analysis of the statistical results. Finally, the results are discussed and various conclusions presented.

2. Theory

A substantial amount of previous behavioral accounting literature has analyzed how different information user groups (such as managers, investors, analysts or auditors) react to or behave when providing, interpreting or using certain accounting information, presented in various forms and contexts (see Deegan, 2004 for a review). While the results have at times been contradictory, overall the behavioral research has stressed that differences, for example, in people’s abilities, strategies and knowledge can in turn result in substantially different ways of using accounting information in decisions, and that “these differences are more striking than any similarities” (Macintosh, 1985, p. 86; Pihlanto, 1989a).

Hopwood’s (1972) classic study was the first to analyze the various distinct styles of using financial (budgeted and actual cost) information by cost center managers in performance evaluations. In his study, the leadership styles observed ranged from primarily budget- and actual cost-based to primarily nonaccounting-based. First, in a “budget constrained style,” managers’ performance was primarily evaluated on the basis of their ability to continually meet the short-term budget. Second, in a “profit conscious style,” managers’ performance was evaluated on the basis of their ability to increase the long-term effectiveness of their units in relation to the goals of the organization; for this, accounting data was also used, but in a flexible and creative manner, and where necessary,

¹ Note that this study focuses on selected behavioral ‘action accountability’ controls rather than on any kind of behavioral or action control.

supplemented by alternative sources of information. Third, in a “nonaccounting style”, accounting data played a relatively unimportant part in the evaluation of the managers’ performance. Since accounting information was used in all the three styles in Hopwood’s (1972) study, it was found relevant. However, given that managers also desire data beyond accounting, accounting data appeared not complete for those managers (cf. Birnberg and Sadhu, 1986, p. 120).

After it was realized that financial controls are one of a number of possible criteria a manager can use in performance evaluations, several scholars examined whether managers rely on financial information in varying degrees (Birnberg and Sadhu, 1986, p. 130) examining high versus low emphasis of financial control in performance evaluations, often in terms of “tight” versus “loose” control (see also Hartmann, 2000; Merchant and Van der Stede, 2007). This is seen both in the contingency studies that followed Hopwood’s (1972) and Otley’s (1978) empirical studies and in research on multinational companies. The contingency-based reliance on accounting performance measures literature has typically been concerned with issues such as whether accounting measures are subject to limitations, may be incomplete, and “can become dysfunctional when carried too far” (Birnberg and Sadhu, 1986, p. 132; Hartmann, 2000). The contingency studies have argued and found that effectiveness of tight versus loose control depends on the situation. In studies on multinational companies, the predominant result has, nevertheless, been that top managers at headquarters tend to use the same financial controls, such as return-on-investment (ROI), profit, and budgets, in the evaluation of foreign operations and managers as for domestic operations and managers and place a high emphasis on them (see Kihn, 2008 for a review). While the above studies have provided insights about differences in the extent of tight versus loose financial control, they have analyzed how accounting information is generally used in organizations.

In contrast, Pihlanto’s (1989b) behavioral study on 41 decision-makers of a large Finnish company analyzed and found clear differences in people’s decision-making styles, and in their perceptions about the nature, roles, and use of accounting information.² Some of the decision-makers, such as accounting personnel, top managers and some business unit managers, were found to interact regularly with each other in accounting terms. Top managers, in particular, had to a large extent trust accounting information while making decisions. The common focus of interest probably aided in creating a shared interpretation about the reality of the firm. However, many of the accountants and accounting managers as well as the other decision makers at various business units and hierarchical levels were also found to differ in the use of accounting information. For example, there appeared to be substantial differences in the perceptions regarding decision-making styles and use of accounting information between the leader and staff in three of the six business units examined.

While little research exists on how managers combine accounting information and various other types of information, Pihlanto (1989b, 1990) also analyzed the ways accounting information, soft nonfinancial information and discussions with colleagues were used in decision-making. He found that soft nonfinancial information and discussions with colleagues were perceived to be highly important in complementing, and even substituting for, formal accounting information in the organization examined. Whilst all the surveyed decision-maker groups, ranging from various kinds of directors and managers to accountants and other employees, viewed informal information highly important, the employees of the marketing department seemed to have the most positive perceptions about the importance of informal information and most negative perceptions of accounting information. These findings were explained by the observations that the nature of marketing is highly extroverted, marketing personnel were found to emphasize intuition and feeling in decision-making, and the problems of marketing are such that accounting information cannot even, at best, offer very much aid in solving them (Pihlanto, 1990, pp. 110-111).

² His analysis of decision-making styles was based on the Jungian (1971) typology of different psychological types, i.e., sensation, intuition, thinking, and/or feeling.

A few recent studies have addressed how managers combine various kinds of balanced scorecard (BSC) performance measures in performance evaluations. Lipe and Salterio's (2000) and Dilla and Steinbart's (2005) studies provide examples. They analyzed whether managers complement or substitute BSC measures unique to a business unit's strategy with performance measures common across units. Lipe and Salterio (2000) found that MBA students assigned the role of superior managers ignored unique BSC measures and instead based their performance evaluations solely on common measures. This is of concern in that inattention to unique measures could undermine the usefulness of the BSC as a strategic management system (cf., Kaplan and Norton, 1996). In line with Bonner (1990), Lipe and Salterio (2000) suggested that their result may reflect the participants' lack of experience with the BSC: knowledgeable decision makers are likely to weight clues differently than less knowledgeable decision makers, especially on complex, less structured tasks. Dilla and Steinbart (2005) followed this up and, indeed, found that undergraduate accounting and information systems majors who are knowledgeable about the BSC attended to both common and unique measures, but place greater emphasis on the former. Their results held in both performance evaluation and bonus allocation decisions. Dilla and Steinbart (2005) attributed their results to the knowledge participants acquired during classroom training on the design of the BSC, although could not rule out the possibility that their results might differ from previous research because of differences in the student samples. In the same way, the level of managers' experience could in part impact how financial controls are combined with nonfinancial and behavioral controls, i.e., complemented or substituted for.

At minimum, the above studies suggest that managers use multiple forms of control information in decision-making in general and also in managerial performance evaluations and bonus allocations in particular. The results also suggest that all managers do not use information in the same way and open up interesting paths for future research. First, while it not quite clear how individual managers emphasize multiple forms of controls in general, and financial, nonfinancial and behavioral controls in particular, individual-level differences seem possible. Second, there is lack of knowledge on how individual managers emphasize such controls in performance evaluations. Third, there is a lack of information of how individual managers place emphasis on the controls in multinational companies, although they operate in highly complex contexts and have less information on what happens in the overseas contexts unfamiliar to them. This study will explore the following research proposition in a sample of multinational companies in order to identify, describe and profile the principal styles of top management in the use of financial, nonfinancial and behavioral controls.

Proposition 1: Top managers differ significantly in the way they emphasize financial, nonfinancial and behavioral controls in the performance evaluation of foreign subsidiary managers.

Despite concern on dysfunctional effects of high reliance on accounting performance measures, several scholars have reported positive associations between tight financial control – typically budget control – and individual or firm performance (Brownell, 1982; Hassel, 1991; Hofstede, 1968; Simons, 1988; Stedry, 1960). The positive associations have been explained to probably result due to positive motivational effects, cost-effectiveness in a multinational environment, and/or elimination of slack.

Even though the empirical results have been mixed (for reviews, see Ittner et al., 2003, pp. 718-720; Davis and Albright, 2004, pp. 137-138), the normative literature on strategic performance measurement systems has argued that the best results are achieved by combining financial and nonfinancial controls (e.g., Goold and Quinn, 1990; Lynch and Cross, 1991; Kaplan and Norton, 1992; Smith, 1995). Ultimately, a balanced use of carefully selected financial and nonfinancial indicators can allow managers to view performance in several areas simultaneously and to provide more outward-looking, longer term and strategic perspectives. Those in turn, have been expected to enhance long-term performance.

Based on previous research, it seems quite possible that all styles may not be as effective in improving short-term performance. The BSC literature (e.g., Kaplan and Norton, 1992, 1993, 1996) has recommended a balanced use of various types of performance measures, but identified the financial goal(s) as the ultimate goal(s), whereas the other goals (i.e., customer, internal, innovation and learning goals) are considered to be ways of achieving the ultimate goal(s). Kihn's (2007a, 2007b) study on 35 business units of Finnish based industrial multinational companies found that in the short-term, and regardless of the environmental contingencies analyzed, financial controls were more effective than nonfinancial or behavioral controls in improving short-term profitability, but packages comprising financial and selected behavioral (action accountability) controls in particular could improve short-term profitability even more. The styles with very high (low) financial and action accountability controls result in the highest (lowest) short-term profitability, if the above mentioned regression analysis results are considered typical. The following research proposition tests for the overall expectation:

Proposition 2: Differences in top management's styles in the emphasis of financial, nonfinancial and behavioral controls in the performance evaluations of foreign subsidiary managers are associated with differences in financial performance.

3. Method

3.1 Sample

The data of this study were collected as a part of a larger survey. The target sample of the study comprised the entire population of 102 manufacturing, banking, and consulting multinational companies headquartered in Finland. In all these companies the Finnish parent company held at least one overseas manufacturing, banking, or consulting subsidiary with a more than a 50% interest. Therefore, pure export and import companies were beyond the scope of this study. The foreign subsidiaries of these companies appeared relatively autonomous, in that most of the firms had decentralized their value-adding activities (production, marketing sales, etc.) and highly delegated operative decisions to foreign subsidiary managers.

In the first phase of data collection, data were collected by administering a cross-sectional mail survey. The survey was sent to such managers who are in positions lending access to information about the performance evaluations of foreign subsidiary managers. These were typically business group or divisional managers in larger diversified firms, and corporate directors (such as financial directors, vice presidents, or presidents) in smaller single-business firms. One respondent was selected from each business unit (or division). The respondents were identified based on telephone calls, and on information derived from annual reports.

After pre-testing the wording and content of the questionnaire three times in a sample of thirteen practitioners and academic experts in order to improve the content and construct validity, reliability and objectivity of survey questions, a total of 176 questionnaires were distributed by air mail to the business unit top managers of the 102 multinational companies. Dillman's (1978) total design method for mail surveys was applied. One hundred and three usable responses were received from about 60 multinational companies (with a response rate of 58.8%) and 103 business units representing 58.5% of all mailed surveys. The companies of the 103 participants represent a wide range of industries including metals (27.2%); forest (15.5%); glass or steel (8.7%); consulting (6.8%); chemical (5.8%); oil, coal or nuclear (5.8%); plastic (5.8%); food, drink or tobacco (4.9%); banking (3.9%); textile, clothing, leather or shoes (2.9%); furniture (2.9%); electronics, computer etc. (2.9%); printing (1.0%); mining (1.0%); and energy or water (1.0%).³

³ In 3.9% of the cases the information was not available.

In the second phase of data collection, both documentary sources (such as annual reports) and surveys were used to collect data on year-end return on investment (ROI), number of subsidiaries and number of employees. It was possible to get a total of nine ROI values from the annual reports. Because ROI values are normally unavailable for conglomerate business units and for privately held firms (i.e., not listed on the stock exchange), additional performance data were collected with a mail survey (and four follow-ups at the corporate level). These attempts yielded data on several business units increasing the total number of responses to 36. This sample represents about 20% of the total target population of 176 respondents, and about 35% of the 103 initial respondents. Reasons such as financial information not being available because of the information's confidential nature or because of mergers were identified as the cause of no response in 12 cases.

3.2 Measures

Controls. The dependent variable of this study assesses the extent to which senior managers at headquarters perceive that they use (or do not use) financial, nonfinancial, and behavioral controls in the performance evaluation of foreign subsidiary managers. Senior managers' perceptions were assessed with five-item five-point Likert scales. Examples of financial controls (profit, ROI, residual income, etc.), nonfinancial results controls (e.g., market share, quality and production volume), and behavioral controls (e.g., follow rules and procedures, achieve cost budgets & production standards and propose expenditure programs) were provided.

Based on Keating's (1997) questions on managerial performance evaluation, the respondents were asked to indicate:

- 1) The importance of controls in the evaluation of foreign subsidiary manager performance;
- 2) The frequency with which meetings are arranged with foreign subsidiary managers to discuss their performance on those controls;
- 3) The extent to which controls reflect the successful efforts of the subsidiary managers;
- 4) The attention paid by senior management to the periodic results of controls; and
- 5) The impact of good or poor results measured on the controls on managers' rated performance.

Each item was rated on a scale ranging from 1 (not at all/not at all important) to 5 (very much/very important). Low (high) average values on the 1-5 scale indicate a low (high) emphasis on controls.⁴

Background variables. Certain individual and organizational level background variables were included in the study to aid in profiling the top managers and their business units. The following two individual level variables were included in the survey analysis to provide key information about the top managers: extent of work experience at the company and age of respondent. Both of these were measured in number of years. The respondents were asked to indicate how many years they had been employed by the current company and in what year they were born. Whilst not a complete survey document, appendix 1 details the survey questions used in this study.

The following organizational level variables were also included in the analysis: financial performance, extent of world-scale operations and organization size. Financial performance of a business unit was measured as ROI (see also Simons, 1988) using year-end numbers collected (cf., Kihn, 2007a). Extent of world-scale operations was measured as subsidiaries outside Europe as a percentage of all subsidiaries. The size of organization was approximated according to the number of employees. The organizational-level data was collected primarily from documentary sources such as

⁴ Whilst summative scales were not used in the subsequent statistical analysis, internal reliability of this instrument was, nevertheless, assessed with Cronbach's (1951) alpha statistic resulting in an alpha statistic of 0.84 for the emphasis of financial controls, 0.79 for the emphasis of nonfinancial controls, and 0.83 for the emphasis of behavioral controls.

annual reports and additional surveys to a smaller extent. Table 1 presents the descriptive statistics for all the variables of this study.

[Insert Table 1 about here]

3.3 Statistical methods

The research propositions of this study were assessed with the aid of cluster analysis and analysis of variance (ANOVA). Cluster analysis is a statistical technique that sorts observations into similar groups. It has unparalleled ability to classify a large number of observations along multiple variables. (Ketchen and Shook, 1996, p. 441, p. 453). According to Chenhall and Langfield-Smith (1998, p. 258), cluster analysis can provide rich insights into the multiple elements of management accounting. In this study, cluster analysis was used to provide empirical evidence about the ways top managers combine and weigh controls so that individuals in the same cluster would be more similar to one another than to individuals in other clusters.

Euclidean distance, often referred to as straight-line distance, and the most commonly recognized measure of the similarity between two objects (Hair et al., 2006, p. 557, p. 575), was used as a distance measure. A hierarchical clustering algorithm was selected using Ward's method, which, according to Hair et al. (2006, 590) is probably one of the best available. This method is based on the total sum of squares within clusters. It is preferred when a wide range of clustering solutions is to be examined and the sample size is moderate (Hair et al., 2006, 593).

A dendrogram was examined to determine how many clusters should be selected. Thereafter, clusters were named, validated with a selected outcome variable (financial performance), and profiled with demographic variables using ANOVA. Financial performance in terms of short-term profitability was calculated for each cluster as an outcome variable. The clusters were also profiled using several of the respondents' demographic variables and their units to further describe how each cluster differed from the others (if at all). The following variables were used: age of respondent, length of respondent's work experience at current company, extent of world-scale operations and organization size.

4. Results and analysis

4.1 Cluster analysis results

The first research proposition of this study expected that top managers differ significantly in the way they emphasize financial, nonfinancial and behavioral controls in the performance evaluation of foreign subsidiary managers. This proposition was assessed with the aid of cluster analysis. When analyzing the data, the dendrogram showed that either a three- or six-cluster solution could be selected. Both solutions were checked. A three-cluster solution suggested one cluster was high on all controls (i.e., "tight"), another low on all controls (i.e., "loose control"), and a third somewhere in the middle, merely suggesting variations in the intensity of tight versus loose control. Whilst one of the clusters of the six-cluster solution was small, each of the six clusters was more distinct and varied more in its magnitude of clustering variables than in the three-cluster solution. Therefore, the six-cluster solution was considered more suitable to select for further analysis (cf. Hair et al., 2006, p. 611).

The mean scores of the variables within each cluster and the F-tests for each cluster are presented in Table 2. The F-tests indicate that statistically significant differences exist for individual variables across clusters, providing further empirical support for the theoretical expectation of differences in top management styles. The cluster analysis results clearly show that each cluster differs from the others, with respect to the ways top management emphasizes the various forms of controls.

Therefore, the first research proposition of this study is empirically supported. The following are the six clusters each indicating a differing management style in the emphasis of controls:

[Insert Table 2 about here]

- 1) *High emphasis on financial controls* – The first cluster in this study (Table 2, column 1) describes a management style in which top management compared to the other clusters mostly ranked third in emphasis on financial controls, fourth in emphasis on nonfinancial controls and sixth in emphasis on behavioral controls. Hence, managers placed a relatively high emphasis on financial controls, but less emphasis on nonfinancial controls and even less emphasis on behavioral controls.
- 2) *Very high emphasis on financial controls and high emphasis on nonfinancial controls* – Compared to the other clusters, top management in the second cluster (Table 2, Column 2) ranked first through fourth (mostly around second) in emphasis on financial controls, second through fourth (overall third) in emphasis on nonfinancial controls, and second through fourth in emphasis on behavioral controls. Hence, managers place a very high emphasis on financial controls and a high emphasis on behavioral and nonfinancial controls.
- 3) *Tight control* – Managers of the third cluster (Table 2, Column 3) ranked first compared to the other clusters in their emphasis of financial, nonfinancial and behavioral controls. Hence, they clearly place the greatest emphasis on all the controls examined. This was the case for each and every item. Therefore, this cluster is termed comprehensive or *tight control*.
- 4) *High emphasis on financial and nonfinancial controls* – An examination of the fourth cluster (Table 2, Column 4) revealed that compared to other clusters, top management mostly ranked fourth in emphasis on financial controls, second in emphasis on nonfinancial controls, and mostly third in emphasis on behavioral controls. However, based on the mean values, top managers' absolute emphasis on financial controls was higher than on nonfinancial controls. Hence, the fourth cluster suggests a style in which managers place less emphasis on behavioral controls, but a very high emphasis on financial and nonfinancial controls.
- 5) *Loose control* – In the fifth cluster (Table 2, Column 5) managers clearly place a low emphasis on all the controls examined. In contrast to the other clusters, they place the least amount of emphasis on financial and nonfinancial controls and the emphasis on behavioral controls was second lowest. This cluster is termed *loose control*.
- 6) *Emphasis on behavioral and nonfinancial controls* – The sixth cluster (Table 2, Column 6) is very small representing only four top managers. In this style, top management also placed little emphasis on financial controls both on an absolute and relative basis. These managers placed higher emphasis on both behavioral (ranking mostly second or third) and nonfinancial controls (ranking second through sixth). Based on the absolute mean values, top management placed only slightly higher emphasis on behavioral than nonfinancial controls. Therefore, this style is called *emphasis on behavioral and nonfinancial controls*.

4.2 Profiling the clusters

The second research proposition of this study was developed to assess whether differences in top management's styles in the emphasis of financial, nonfinancial and behavioral controls are correlated with differences in financial performance. The second proposition was assessed using ANOVA. In the following, each cluster is first described in more detail. The available performance data are used to order the clusters from highest to lowest performance. The clusters are then profiled with selected individual and organizational level variables to provide details about the top managers and their units. As Table 1, Column 3, shows, cluster 3 (hereafter C3) ranked first in performance, followed by C2, C4, C1, and C5. There are no performance data for C6.⁵

⁵ It might be related to its small size of four data points.

Top management in C3, which was the highest performing group (mean ROI 21.12%), appeared to place the greatest emphasis on all the examined controls reflecting *tight control*. The respondents were, on average, about 48.2 years old (ranking fourth). They had worked, on average, about 10.5 years at their current company having the shortest experience of all managers. On average, over half (64%) of their foreign subsidiaries were outside Europe, suggesting that these units were highly involved in worldwide operations. (In fact only C1 had a higher proportion of subsidiaries outside Europe, i.e., 67%). Measured by number of employees (mean 1382), the units in this group were the fourth largest.

C2 and C4 also consisted of high performers, as reflected by the ROI-values of 17.75% and 17.29%, respectively. In C2, that ranked second in performance, top managers applied the style *very high emphasis on financial controls and high emphasis on nonfinancial controls*. On average, the C2 respondents were the most senior (with a mean of about 51.0 years) and had worked about 17 years at their company (ranking third). This cluster comprised the largest units (with a mean size of 3315 employees), and the foreign subsidiaries were mostly (61%) outside Europe.

C4 ranked third in performance, being very close to C2. The style used by the C4 top managers is *high emphasis on financial and nonfinancial controls*. On average, this cluster had the youngest respondents, with an average age of about 46.2 years. On average, they had worked about 12 years at their company (ranking fifth in work experience at the current company). Their units had the smallest proportion (28%) of foreign subsidiaries outside Europe, and were smaller than the units in most other groups. In contrast to C2, this cluster comprised some of the smaller units. With an average of only 694 employees, the companies of C2 ranked fifth in size.

C1 ranked fourth in performance, with an ROI of 10.9%. Top management of C1 clearly applied the *high emphasis on financial controls* style. On average, respondents in this group were also among the most senior (second oldest with a mean of about 50.6 years) and had worked many years at their company (ranking second with a mean of about 18 years). These units were the second largest (with 2289 employees), and about two thirds of their foreign subsidiaries were outside Europe (ranking second in world-scale operations).

C5 ranked fifth in performance, with an ROI of 2.3%. Top management in this cluster applied *loose control*. On average, top management in this cluster were younger than in most others, but also middle-aged. They ranked fifth with a mean age of 46.5 years. They had worked about 12.7 years at their company (ranking fourth). The size of their units ranked third (with 1523 employees). The foreign subsidiaries operated mostly within Europe with only 36% of subsidiaries outside Europe. Accordingly, they ranked fifth in the extent of worldwide operations.

There was no performance data for the small C6 cluster representing *emphasis on behavioral and nonfinancial controls*. On average, the respondents in this group were 50.0 years old (ranking third) and had worked 20 years at their company (i.e., longer than the others). All their foreign subsidiaries were outside Europe. The multinational companies in this cluster were the smallest (with a mean of only 112 employees).

In summary, when the six clusters or styles were profiled with selected demographic and background variables, certain tendencies appeared to exist between top management styles and short-term business unit profitability, but not between other variables. In this study, the managers of the highest performing cluster tended to place the highest emphasis on all the controls, i.e., a *tight control* style. The managers of the second highest performing cluster placed very high emphasis on financial controls and high emphasis on nonfinancial controls. In contrast, the managers of the lowest performing cluster placed low, if not the least, emphasis on the controls, reflecting a *loose control* style. The others styles, representing various kinds of combinations of financial, nonfinancial and behavioral controls, and profitability levels existed between these two extremes. In conclusion, the

data seem to broadly support the second research proposition of this study. Consequently, both propositions of this study are supported.

5. Summary and conclusions

Previous studies have focused on how organizations generally use multiple forms of controls and performance measures. This study was the first to identify the principal top management styles in the use of financial, nonfinancial and behavioral controls. It also explored the question of whether the different styles result in performance differences. Following Ouchi (1979), Thomson (1967) and a series of empirical studies (Abernethy & Brownell, 1997; Abernethy and Stoelwinder, 1995; Eisenhard, 1985; Kihn, 2001, 2007a, 2007b, 2008; and Kren and Kerr, 1993), this study advanced empirical analysis of output and behavioral controls.

The results reveal that all three types of controls were simultaneously used by all the top managers surveyed, linking foreign subsidiary managers' performance evaluations to reported results and behaviors. As expected, the statistical results also suggested several clusters reflecting differing management styles in the emphasis of the controls. A total of six clusters could be identified, which were described and profiled with selected individual and organizational level variables. In brief, when the clusters were compared to each other, the following styles were identified: *high emphasis on financial controls*, *very high emphasis on financial controls and high emphasis on nonfinancial controls*, *high emphasis on financial and nonfinancial controls*, *tight control*, *loose control* and *emphasis on nonfinancial and behavioral controls*. These results indicate that in addition to tight and loose control, different versions of high versus low emphasis of controls also exist. The emphasis of financial controls was highest in the clusters *tight control*, *very high emphasis on financial controls and high emphasis on nonfinancial controls*, and *high emphasis on financial controls*; and lowest in the clusters *loose control*, and *emphasis on nonfinancial and behavioral controls*.⁶

When the six styles (clusters) were profiled with selected organizational (business unit) and individual level background variables, certain tendencies appeared to exist between business unit top management styles and short-term business unit profitability. The managers of the highest performing cluster tended to place the highest emphasis on all the controls, i.e., a *tight control* style. In contrast, the managers of the lowest performing cluster placed low, if not the least, emphasis on the controls reflecting a *loose control* style. The others styles and profitability levels lie between these two extremes. The other background variables also showed high differences, but do not indicate clear tendencies.

The results of this study have at least three implications for management accounting theories. The first lesson is that top managers behave differently when using multiple forms of controls in performance evaluation decisions. This result is in line with and extends previous behavioral accounting research (see Macintosh, 1985; and Pihlanto, 1989a,b, 1990), which has reported human differences in the emphasis of accounting information to be striking. In this study, striking differences were also identified in the use of nonfinancial and behavioral controls. This result is of importance to theories on multiple controls and strategic performance management systems such as balanced scorecards.

Second, the results add to the evidence that decision makers do not give equal weight to all controls and performance measures (cf., Ittner, Larcker, and Meyer, 2003; Dilla, and Steinbert, 2005) by showing that while top managers simultaneously use all three types of controls, there are statistically significant differences in how they are emphasized. These results also suggest that top management

⁶ Note that styles such as the following were not included in the six cluster solution of the main styles: *emphasis on behavioral controls*, *emphasis on financial and behavioral controls*, and *no use of financial, nonfinancial and/ or behavioral controls*.

views each of them as relevant but not complete information, and combines the controls in such a way that they complement, rather than substitute for, each other. This result found in a sample of top managers of Finnish-based multinational companies is also in line with and extends Hopwood's (1972) findings on the use of accounting and nonaccounting information in managerial performance evaluations, and supports Pihlanto's (1989b, 1990) study on decision-making to the extent that multiple sources of information were used to complement each other, although no signs of substituting accounting information with other forms of information was observed in this study.

Third, the identified tendencies between top management styles on the use of controls and the extent of business unit short-term profitability are in line with, and extend, the findings of Kihn (2007a, 2007b), whose multiple regression analysis findings proposed, that financial controls are more effective than nonfinancial or behavioral controls in improving profitability. In this study *tight control* style appears to result in highest short-term profitability probably since it included the highest possible emphasis on both financial and behavioral (action accountability) controls, and *loose control* in the lowest short-term profitability (cf., Kihn, 2007a). In addition, four other principal styles were identified in this study. However, it was not possible to assess whether packages comprising financial and behavioral (action accountability) controls in particular could improve short-term profitability even more (cf., Kihn, 2007a, 2007b), since such a cluster was not identified in this study.

The managerial implications of the results of this study are twofold: first, performance monitoring and evaluation appear worthwhile, but all management styles are not as effective in enhancing short-term profitability. Second, the results are suggested to be particularly helpful in understanding the main management styles. This is valuable for interpreting individual manager's styles in the use of various types of control information.

This study is subject to certain limitations. First, whilst various styles are likely to exist, this study identified the *principal* styles in the use of financial, nonfinancial and behavioral controls only. Furthermore, the examined behavioral controls included certain kinds of action accountability controls (Merchant and Van der Stede, 2007). Second, survey research does not provide as controlled results as controlled experiments. However, it was possible to gain access to top management evidence in this study. Third, in being an explorative data technique, cluster analysis provides a less rigorous set of techniques than, for example, regression analysis. Furthermore, equal weights were given to different questions on controls in the interpretation of the cluster analysis results. For example, data on the question "How important do you perceive each of the following types of measures to be in the evaluation of overseas managers" was given the same weigh in the analysis than data on the question "how often do you arrange meetings with overseas managers to discuss their performance on the following types of measures." Nevertheless, as pointed out by Chenhall and Langfield-Smith (1998, p. 258), cluster analysis can provide rich insights that could not be obtained with other methods, but can be further analyzed in future research. In this study it could be used to identify top managers' principal styles in the use of controls. Fourth, some of the analyzed clusters are small in size and/or lacked data. Fifth, it is not sure whether the higher ROI is associated with a higher use of financial controls, since the firms in the tight control cluster could be in industries that have higher ROI. Note also that a high ROI can sometimes be a sign of 'harvesting.' Finally, the results provide evidence on Finnish-based MNCs, and should not be generalized to other companies or other countries. Nevertheless, they provide a useful first step in this line of research. Due to these limitations, the empirical results of this study are tentative in nature, but confirm the expectations that there are clear differences in the simultaneous emphasis of multiple forms controls by top managers and that all top management styles are not as good at improving short-term performance.

Future accounting research on output and behavioral controls as well as on strategic performance measurement systems such as balanced scorecards could be increasingly directed at further analyzing the various ways in which people use them, whether various individual characteristics influence

control choices, and what kind of personal, organizational and long-term profitability effects the various control choices have. The research could also be extended to other samples. For example, perceptions of domestic and foreign subordinate managers could also be analyzed to compare and contrast how subordinate managers perceive the intended styles.

References

Abernethy, M.A. and Stoelwinder, J.U. (1995) 'The role of professional control in the management of complex organizations', *Accounting, Organizations and Society*, Vol. 20, No. 1, pp.1-17.

Abernethy, M.A. and Brownell, P. (1997) 'Management control systems in research and development organizations: The role of accounting, behavior and personnel controls', *Accounting, Organizations and Society*, Vol. 22, No. 3/4, pp.233-248.

Birnberg, J.G. and Sadhu, K.K. (1986) 'The contribution of psychological and cognitive research to management accounting', *In: Bromwich, M. and Hopwood, A. G. (eds.) Research and Current Issues in Management Accounting*, [pp. 116-142], London: Pitman.

Bonner, S.E. (1990) 'Experience effects in auditing: The role of task-specific knowledge', *The Accounting Review*, Vol. 65, pp.72-92.

Brownell, P. (1982) 'The role of accounting data in performance evaluation, budgetary participation, and organizational effectiveness', *Journal of Accounting Research*, Vol. 20, Spring, pp.12-27.

Chenhall, R.H. and Langfield-Smith, K. (1998) 'The relationship between strategic priorities, management techniques and management accounting: an empirical investigation using a systems approach', *Accounting, Organizations and Society*, Vol. 23, pp.243-264.

Davis, S. and Albright, T. (2004) 'An investigation of the effect of balance scorecard implementation on financial performance', *Management Accounting Research*, 15, pp.135-153.

Deegan, C. (2004) *Financial Accounting Theory*, London: The McGraw-Hill Companies, Inc.

Dilla, W.N. and Steinbart, P.J. (2005) 'Relative weighting of common and unique balanced scorecard measures by knowledgeable decision makers', *Behavioral Research in Accounting*, Vol. 17, pp.43-53.

Eisenhardt, K.M. (1985) 'Control: Organizational and economic approaches', *Management Science*, Vol. 31, No. 2, pp.134-149.

Goold, M. and Quinn, J. (1990) *Strategic Control: Milestones for Long Term Performance*, London: The Economics Books Ltd.

Hair, J. F., Black, W.C., Babin, B.J., Anderson, R. E., and Tatham, R. L. (2006) *Multivariate Data Analysis*, 6th edn., Upper Saddle River, NJ: Pearson Prentice Hall.

Hartmann, F.G.H. (2000) The appropriateness of RAPM: toward the further development of theory, *Accounting, Organizations and Society*, Vol. 25, pp.451-482

Hassel, L. (1991) 'Headquarter reliance on accounting performance measures in a multi-national context', *Journal of International Financial Management and Accounting*, Vol. 3, No. 1, pp.17-36.

- Hofstede, G.H. (1968) *The Game of Budget Control*, London: Tavistock.
- Hopwood, A.G. (1972) 'An empirical study of the role of accounting data in performance evaluation', *Empirical Research in Accounting: Selected Studies, Supplement to Vol. X, Journal of Accounting Research*, pp.485-495.
- Ittner, C.D. and Larcker, D. F. (1998) 'Innovations in performance measurement: Trends and research implications', *Journal of Management Accounting Research*, Vol. 10, pp.205-238.
- Ittner, C.D., Larcker, D. F. and Meyer, M. W. (2003) 'Subjectivity and the weighting of performance measures: Evidence from a balanced scorecard', *The Accounting Review*, Vol. 78, No. 3, pp.725-758.
- Ittner, C.D., Larcker, D.F. and Randall, T. (2003) 'Performance implications of strategic performance measurement in financial services firms', *Accounting, Organizations and Society*, Vol. 28, pp.715-741.
- Jung, C.G. (1971) '*Psychological Types*', a Revision by R.F.C. Hull of the translation by H. G. Baynes. London and Henley: Routledge & Kegan Paul. (Psychologische Typen, Zurich, 1923).
- Kaplan, R.S. and Norton, D.P. (1992) 'The balanced scorecard – measures that drive performance', *Harvard Business Review*, Vol. 70, pp.71-79.
- Kaplan, R.S. and Norton, D. P (1993) 'Putting the balanced scorecard to work', *Harvard Business Review*, Vol. 71, pp.134-147.
- Kaplan, R.S. and Norton, D.P. (1996) *The Balanced Scorecard. Translating Strategy into Action*, Boston: Harvard Business School Press.
- Keating, S. (1997) 'Determinants of divisional performance evaluation practices', *Journal of Accounting and Economics*, Vol. 24, pp.243-272.
- Kihn, L.A. (2008) 'The determinants of multiple forms of controls in foreign subsidiary manager evaluations', *International Journal of Accounting, Auditing and Performance Evaluation*, Vol. 5, No. 2, pp.157-182.
- Kihn, L.A. (2007a) 'Financial consequences in foreign subsidiary manager performance evaluations', *European Accounting Review*, Vol. 16, No. 3, pp.531-554.
- Kihn, L.A. (2007b) 'Erratum to financial consequences in foreign subsidiary manager performance evaluations', *European Accounting Review*, Vol. 16, No. 4, p.877.
- Kihn, L.A. (2001) 'Strategies, decentralization and controls in internationalized Finnish firms', *Finnish Journal of Business Economics*, No. 1, pp. 35-57.
- Kren, L. and Kerr, J. (1993) 'The effect of behavior monitoring and uncertainty on the use of performance-contingent compensation', *Accounting and Business Research*, Vol. 23, No. 90, pp.159-168.
- Lipe, M.G. and Salterio, S.E. (2000) 'The balanced scorecard: Judgmental effects of common and unique performance measures', *The Accounting Review*, Vol. 75, pp.283-298.

- Lynch, R.L. and Cross, K.F. (1991) *Measure Up! Yardsticks for Continuous Improvement*, Cambridge, MA: Blackwell.
- Macintosh, N. B. (1985) *The Social Software of Accounting and Information Systems*, Toronto: John Wiley & Sons.
- Merchant, K.A. and Van der Stede, W. (2007) *Management Control Systems. Performance Measurement, Evaluation and Incentives*, New York: Prentice Hall, Pearson Education Limited.
- Nørreklit, H. (2000) 'The balance on the balanced scorecard – a critical analysis of some of its assumptions', *Management Accounting Research*, 11, pp. 65-68.
- Otley, D. (1978) 'Budget use and managerial performance', *Journal of Accounting Research*, Vol. 16, pp.122-149.
- Ouchi, W.G. (1979) 'A conceptual framework for the design of organizational control mechanisms', *Management Science*, Vol. 25, No. 9, pp.833-846.
- Pihlanto, P. (1989a) *Laskentainformaation hyväksikäytön ulottuvuudet yrityksessä. Aktorikäsitys johdon laskentatoimen tutkimuksessa*, [Dimensions of the use of accounting information in a firm. The notion of the actor in accounting research], unpublished research report, Turku: Turku School of Economics, Department of Accounting.
- Pihlanto, P. (1989b) *Actors, Decision Styles, and Organizational Situations: A Framework for Behavioral Accounting Research*, Turku: Publications of the Turku School of Economics, Series A-2:1989.
- Pihlanto, P. (1990) *Laskentainformaation hyväksikäyttö yrityksessä. Jungin typologia ja laskentatoimen käyttötavat*, [The use of accounting information in a firm. The Jungian typology and the ways of using accounting information], Turku: Publications of Turku School of Economics, Series KR-2: 1990.
- Simons, R. (1988) 'Analysis of organizational characteristics related to tight budget goals', *Contemporary Accounting Research*, Vol. 5, No. 1, pp. 267-283.
- Smith, M. (1995) *New Tools for Management Accounting*, London: Pitman.
- Stedry, A. (1960) *Budget Control and Cost Behavior*, Englewood Cliffs, NJ: Prentice Hall.
- Thompson, J.D. (1967) *Organizations in Action*, New York: McGraw-Hill.

TABLE 1. Descriptive statistics

Variable	Mean	Std.Dev.	Min.	Max	N
Avg. emphasis on financial control	4.48	0.55	2.4	5.0	103
Emphasis on F1 ¹	4.75	0.50	3.0	5.0	103
Emphasis on F2	4.34	0.82	2.0	5.0	103
Emphasis on F3	4.38	0.78	2.0	5.0	103
Emphasis on F4	4.52	0.62	2.0	5.0	103
Emphasis on F5	4.38	0.76	2.0	5.0	103
Avg. emphasis on nonfinancial control	4.23	0.55	2.8	5.0	103
Emphasis on N1 ²	4.35	0.65	2.0	5.0	103
Emphasis on N2	4.24	0.86	1.0	5.0	103
Emphasis on N3	4.24	0.69	3.0	5.0	103
Emphasis on N4	4.19	0.78	2.0	5.0	103
Emphasis on N5	4.12	0.74	2.0	5.0	103
Avg. emphasis on behavioral control	3.89	0.69	2.2	5.0	103
Emphasis on B1 ³	4.16	0.75	2.0	5.0	103
Emphasis on B2	3.91	1.03	1.0	5.0	103
Emphasis on B3	3.93	0.87	2.0	5.0	103
Emphasis on B4	3.63	0.94	2.0	5.0	103
Emphasis on B5	3.82	0.89	1.0	5.0	103
Work experience	14.75	8.92	1	35	103
Age of respondent	48.85	6.48	31	64	103
Short-term profitability	14.91	8.92	-4.0	35	36
Extent of word-scale operations	0.52	0.50	0.0	1.0	93
Size	2086.60	2047.51	28	8193	60

¹ F1 – F5 refer to the five survey items on financial controls.

² N1 – N5 refer to the five survey items on nonfinancial controls.

³ B1 – B5 refer to the five survey items on behavioral controls.

TABLE 2. Mean scores of variables within clusters.

	Clusters						F-test	p
	C1	C2	C3	C4	C5	C6		
No. of companies	14	35	12	26	12	4		
Financial control								
F1 ¹	4.86 (3)	4.84 (4)	4.92 (1)	4.88 (2)	4.42 (5)	3.50 (6)	10.507	0.000
F2	4.07 (4)	5.00 (1)	5.00 (1)	3.85 (5)	3.17 (6)	4.25 (3)	34.813	0.000
F3	4.57 (3)	4.71 (2)	5.00 (1)	4.27 (4)	3.25 (5)	3.00 (6)	20.929	0.000
F4	4.86 (2)	4.66 (3)	4.92 (1)	4.54 (4)	3.58 (6)	3.75 (5)	14.602	0.000
F5	4.43 (3)	4.77 (2)	4.92 (1)	4.23 (4)	3.25 (6)	3.50 (5)	17.784	0.000
Nonfinancial control								
N1 ²	4.43 (3)	4.29 (4)	4.92 (1)	4.46 (2)	3.83 (5)	3.75 (6)	5.109	0.000
N2	3.93 (4)	4.83 (2)	5.00 (1)	3.65 (5)	3.25 (6)	4.75 (3)	24.940	0.000
N3	4.07 (4)	4.29 (3)	5.00 (1)	4.38 (2)	3.33 (6)	4.00 (5)	11.329	0.000
N4	3.93 (5)	4.17 (4)	5.00 (1)	4.31 (3)	3.42 (6)	4.50 (2)	7.169	0.000
N5	3.86 (5)	4.09 (4)	5.00 (1)	4.31 (2)	3.17 (6)	4.25 (3)	12.509	0.000
Behavioral control								
B1 ³	3.36 (6)	4.14 (3)	4.75 (1)	4.46 (2)	4.00 (4)	3.75 (5)	7.840	0.000
B2	2.79 (6)	4.54 (2)	4.92 (1)	3.58 (4)	2.92 (5)	4.50 (3)	24.135	0.000
B3	2.64 (6)	4.26 (2)	5.00 (1)	4.00 (3)	3.25 (5)	4.00 (3)	29.839	0.000
B4	2.36 (6)	3.46 (4)	4.92 (1)	4.00 (3)	3.17 (5)	4.75 (2)	34.145	0.000
B5	2.64 (6)	3.91 (4)	5.00 (1)	4.04 (3)	2.92 (5)	4.75 (2)	32.292	0.000
Short-term profitability (n)	10.92(4) 5	17.75(2) 11	21.12(1) 6	17.29(3) 11	2.3 (5) 3	- -	2.255	0.086
Work experience (n)	17.79(2) 14	17.06(3) 35	10.50(6) 12	12.12(5) 26	12.67(4) 12	20.00(1) 4	2.344	0.047
Age of respondent (n)	50.64(2) 14	51.03(1) 35	48.17(4) 12	46.19(6) 26	46.50(5) 12	50.00(3) 4	2.405	0.042
Extent of world-scale operations (n)	0.67 (2) 12	0.61 (4) 31	0.64 (3) 11	0.28 (6) 25	0.36 (5) 11	1.00 (1) 3	2.654	0.028
Size (n)	2289(2) 7	3315(1) 23	1382(4) 10	694 (5) 12	1523 (3) 7	112 (6) 1	4.210	0.003

¹ F1 – F5 refer to the five survey items on financial controls.

² N1 – N5 refer to the five survey items on nonfinancial controls.

³ B1 – B5 refer to the five survey items on behavioral controls.

SUPPORTING DOCUMENT
The English Version of the Survey Questions Used in this Study

1a. How important do you perceive each of the following types of measures to be in the evaluation of overseas managers? (Please circle the appropriate number on the 5-point scale below.)

	Not At All	Of Little	There	Quite	Very
	Important importance between important important				
FINANCIAL CONTROLS (e.g., profit, return-on-investment, and residual income).....	1	2	3	4	5
NONFINANCIAL CONTROLS (market share, quality, production volume, etc.).....	1	2	3	4	5
BEHAVIORAL CONTROLS..... (e.g., achieve cost budgets & production standards, follow rules & procedures, present expenditure cutting proposals, etc.)	1	2	3	4	5

1b. How often do you arrange meetings with overseas managers to discuss their performance on the following types of measures? (1=never, 2=seldom, 3=only if the performance is significantly below expectations, 4=quite often, and 5=regularly).

FINANCIAL CONTROLS.....	1	2	3	4	5
NONFINANCIAL CONTROLS.....	1	2	3	4	5
BEHAVIORAL.....	1	2	3	4	5

1c. To what extent do the following types of measures reflect whether overseas managers are succeeding or failing with the business?

	Not at all	A Little	Some	Quite	Very
	what much much				
FINANCIAL CONTROLS.....	1	2	3	4	5
NONFINANCIAL CONTROLS.....	1	2	3	4	5
BEHAVIORAL CONTROLS.....	1	2	3	4	5

1d. How much attention do you pay to periodic (i.e., weekly or monthly) reports of results based on the following types of measures, when you evaluate the performance of overseas managers?

FINANCIAL CONTROLS.....	1	2	3	4	5
NONFINANCIAL CONTROLS.....	1	2	3	4	5
BEHAVIORAL CONTROLS.....	1	2	3	4	5

1e. How much impact do good or bad results measured in the following types of measures have on the rated performance of overseas managers?

FINANCIAL CONTROLS.....	1	2	3	4	5
NONFINANCIAL CONTROLS.....	1	2	3	4	5
BEHAVIORAL CONTROLS.....	1	2	3	4	5

2. How many years have you served at your current company? _____ years.

3. In what year were you born? In _____.