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# Alignment of Management Control System to Corporate Competitive Orientation: Some Empirical Evidence in Malaysia

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**ABSTRAK**

Dengan perubahan pantas dan persaingan yang begitu hebat di persekitaran, peranan sistem kawalan pengurusan di sesuatu organisasi dalam penyediaan maklum balas maklumat kepada pihak pengurusan untuk mengawas keberkesanan dan kesesuaian strategi persaingannya untuk mencapai matlamatnya menjadi lebih mustahak. Kajian ini meninjau cara penggunaan pelbagai kaedah kawalan pengurusan dan kesepadanan kaedah kawalan ini dengan keutamaan atau orientasi persaingan firma-firma. Satu soal selidik disediakan dan dikirim secara rawak kepada 250 organisasi di Lembah Klang. Sebanyak 93 borang soal selidik dipulangkan dan dianalisis. Keputusan kajian ini menunjukkan bahawa pada keseluruhannya, organisasi-organisasi berpendapat persaingan berasaskan harga, kualiti, dan perkhidmatan/promosi keluaran mereka adalah lebih hebat dibandingkan dengan persaingan berasaskan kepelbagaian dan inovasi keluaran. Selaras dengan pendapatan mereka tentang kehebatan persaingan, keutamaan atau orientasi persaingan mereka juga lebih menumpukan kepada persaingan berasaskan harga rendah, kualiti atau perkhidmatan yang tinggi dan kurang menumpukan kepada kepelbagaian dan inovasi keluaran. Penggunaan di antara kawalan perakaunan dan amalan pengurusan moden untuk mengawas, menilai dan mengawal aktiviti organisasi adalah lebih kurang seimbang, kecuali terdapat kawalan kewangan melalui perbandingan prestasi sebenar dengan belanjawan luas digunakan. Perusahaan kecil menubuhkan sistem kawalan pengurusan secara kurang formal dan mereka juga tidak begitu mementingkan penggunaan kaedah kawalan pengurusan jika dibandingkan dengan perusahaan besar. Bukti ketidaksepadanan penggunaan sebahagian kaedah kawalan pengurusan ditandakan dalam kajian ini. Implikasi keputusan kajian ini dibincangkan.

**ABSTRACT**

With the rapidly changing and increasingly more competitive environment, the role of a management control system (MCS) in an organization in providing information feedback to management for monitoring the effectiveness and appropriateness of the organization's competitive strategy to achieve its goals is becoming more important. This study examines the extent of usage of various management control measures and the compatibility of these control measures with the competitive priorities or orientations of firms. A structured questionnaire was prepared and randomly sent to 250 organizations in the Klang Valley. A total of 93 usable responses were analyzed. The results show that organizations, generally, perceived competition based on product price, quality and service/promotion to be more intense than that based on product variety and innovation. Consistent to their perceived intensity of competition, their competitive priorities or orientations also stressed more highly on competition based on low price, high quality and service, with a much lower emphasis on wide product variety and product uniqueness. Except for an apparent pervasive high usage of the "budget vs. actual" financial control measure, there was a fairly balanced usage of accounting-based controls and modern management practices for monitoring, evaluating and controlling the organizational activities. Small enterprises tended to adopt less formal management control systems and had less extensive usage of the various control

measures than the large firms. Evidence of a lack of proper alignment or incompatibilities in the usage of certain management control measures was indicated in this study. The implications of the findings are discussed.

## INTRODUCTION

The advancements in information technology and the imminent trend towards trade liberalization (or globalization) have significantly changed the environment in which businesses now operate and intensified competition in the market place. As a consequence, new competitive strategies are being formulated and organizational structures, as well as the related monitoring and control systems, are continuously modified to support the new strategies. In the past when business environment was relatively stable and competition was minimum, the management control system (MCS) was designed to rely heavily on accounting or cost information to monitor and control cost efficiency of daily operating activities. The traditional management accounting control system with its high emphasis on accounting and cost control measures, generally, loses its robustness when the business environment becomes less stable and more uncertain (Otley 1980). Management control system has to play a more strategic role in the current rapidly changing and highly competitive business environment. Its major role is to effectively monitor the organization's strategy implementation and progress, and to provide information feedback on the appropriateness of the existing strategies for attainment of the organization's goal(s). There is evidence that business enterprises, which match their internal structures and control systems with their strategies, may achieve high performance (Govindarajan and Gupta 1985; Chenhall 1997).

Empirical evidence on the effects of strategy on management control systems or how these control systems influence strategy and specifically, how top management could organize and use the control systems to assist the attainment of the corporate goals or objectives, is still scarce (Simons 1990). In fact, empirical studies on this issue only began to emerge in the 1990s (Langfield-Smith 1997).

With the growing interest in the relationship between management control system and strategy, the definition of management controls has been broadened to encompass both the accounting-based and non-accounting-based controls that are instituted for the attainment of long-term strategic goal(s) of an organization. Most of the literature on the effect of strategy on the design of management control system or vice versa has been normative in nature (Miles and Snow 1978; Porter 1980; Miller and Friesen 1982). Relatively few studies have examined the empirical relationships between corporate competitive priority or orientation and usage of management control measures or practices in the lesser-developed economies, like Malaysia[1]. Besides, the existing empirical evidence on the relationships between strategy types and management control system attributes, and environmental characteristics is generally limited, mixed and inconclusive (Sim and Teoh 1997; Langfield-Smith 1997). With the impending threats arising from globalization of the market place, management of business enterprises must take heed of the need to design the "right" management control systems to manage their emerging strategies for competitive advantage in the new environment (Simons 1990). This is especially critical for firms in the lesser-developed countries due to their relative disadvantages in both financial resources and human skills. A proper matching of management control system and competitive strategy is necessary to enable the management of an organization to obtain the relevant information feedback to gauge the appropriateness of its corporate competitive strategy and to use the formal control feedback processes to modify its existing strategy. This study aims to provide some empirical evidence

1 Chung (1996) and Sim and Teoh (1997) examined the relationships between management control system attributes and business strategy type based on Miles and Snow's (1978) categorization. Chung's study focused on the electronics and electrical firms in Singapore; while Sim and Teoh's study was a comparative study of Australian, Singapore and Malaysian firms. This study differs from these two studies in that the current study examines for evidence of compatibility or incompatibility between a firm's competitive priority or orientation and its usage of management control measures or practices.

on the extent of usage and compatibility of management control measures or practices in relation to the competitive priorities or orientations of firms in Malaysia.

## LITERATURE REVIEW

The growing interest in the relationship between management control system and strategy arises from the awareness that environment and strategy are important determinants of the management control system used in an organization. To illustrate the need to modify the traditional control system when environment changes, Hoque and Hopper (1994) provided empirical evidence, which suggests that the standard costing systems and variance analysis are ineffective and irrelevant in times of environmental uncertainty. The traditional type of management control system design, very often, is used as organizational defensive routines to protect and continue existing practices, regardless of changes in the environment. The traditional device of monitoring performance using financial budgets may not only be ineffective, but also may even be "anti-learning" (Argyris 1990), when budgets or standards are made easily achievable to cover up fundamental problems and to continue past inefficiencies. The accounting-based control system, however, can be designed to play a significant integrative role to resolve internal conflicts and facilitate flow of pertinent information, such as relevant product costing data and benchmarking information on competitors' relative performance, to arouse awareness of impending external threats and drive the need for organizational change.

Earlier research studies focus the nature and role of management control systems in different organizational types. Miles and Snow (1978) provided descriptions of control system attributes of organizations following a defender-like strategy and those of organizations following a prospector-like strategy. Due to the stable environment that a defender firm is expected to operate in, its control system is typically characterized by centralized decision-making with formalized job descriptions and standard operating procedures. A defender firm adopts a competitive pricing strategy and hence, emphasizes heavily on cost controls and other efficiency matters. Porter (1980) also suggested that tight cost controls were appropriate for firms, which followed a cost leadership strategy. In contrast, a prospector firm tends to have a flexible structure to enable it to respond rapidly to changes in its environment. Jobs in a prospector firm are normally broadly defined and standard operating procedures are often few in order to encourage innovation. Control in a prospector firm tends to be decentralized and the firm is very much results oriented. Similarly, Porter (1980) associated firms, which were pursuing the differentiation strategy, to heavy reliance of control through coordination, rather than on formal accounting-based controls, to encourage creativity and innovation. Chung (1996) found that defender firms and prospector firms placed different emphasis on control system attributes and his results were congruent with results of studies in other cultures. However, Sim and Teoh (1997) reported that several environmental and control system attributes differed by national context in their discriminant functions that was used to classify firms into the three Miles and Snow's (1978) strategic categories.

Research interests later were extended to studies that examined empirically for systematic relationships between specific attributes of the management control system and a particular corporate strategy. Daniel and Reitsperger (1991) examined on how the management control systems of Japanese automotive manufacturers and consumer electronics companies were modified to complement and support their total quality or zero-defect strategy. They found that managers adhering to zero defect strategy were more frequently provided with information feedback on achievement of quality goals, rejects and downtime than those managers, who were only adhering to economic conformance level. This finding supports their proposition that the corporate strategy that focuses on continuous improvement and reduction of defective units has to be complemented by frequent feedback on achievement of the combined goals to foster effective quality improvements. The competitive inroads experienced by Japanese automotive and consumer electronics firms in the global market may be a consequence of the consistency or alignment between their strategy on product quality and their management control system's attributes. This is in accord with the claims by Hiromoto (1988) that Japanese management accounting systems are designed to influence employees to behave in accordance with the

corporate long-term strategic goals, rather than to keep accurate product cost information. In another study by Ittner and Larcker (1997), who examined management control practices in the automotive and computer industries in Canada, Germany, Japan and the United Sates, it was found that quality-related strategic control practices tended to be used more extensively in organizations that followed quality-oriented strategy than organizations with different strategic orientations. However, their hypothesis that organizations, which have aligned their strategic control practices more closely to their competitive strategies, achieve higher performance only has mixed support. The effects of some strategic control practices on performance were found to vary with industry and several strategic control practices even exhibited negative relationships with performance. Perera, Harrison and Poole (1997) also found support for a significant association between customer-focus strategy and the use of non-financial performance measures, an attribute of management control system. However, they too found that the performance of organizations that pursued customer-focus strategy was not significantly linked to an increasing use of non-financial performance measures. The lack of a significant relationship between corporate performance and management control attributes might be due to the lagging effect and limitation of using a point-in-time measure for organizational performance.

Khandwalla (1972) provided the first empirical evidence of the relationship between management control systems and level of competition, a critical determinant of the nature of strategy adopted by an organization. He found a strong positive relationship between the intensity of competition and reliance on the formal accounting control systems. Although, his study did not explicitly consider the nature of strategy adopted by organizations, but it is implicit that organizations that face intense competition are likely to adopt strategies of a prospector (Miles & Snow 1978) or a differentiator (Porter 1980). In view of that, Langfield-Smith (1997) opined that the formal accounting controls examined in Khandwalla's study were not those consistent with the prospector type of organizations that emphasized on flexibility and innovation, and hence, implying that Khandwalla's study did not consider the compatibility of those controls in supporting a particular strategy or level of competition. Several other empirical studies (Chung 1996: Mak 1989), however, provided evidence that was consistent with Khandwalla's study. Prospector firms were found to be associated with more sophisticated and frequent use of operational controls, including cost controls, than the defender firms because of the greater uncertainties faced by the prospector firms.

The increasing competition and the accelerating technological changes have led to the establishment of more flexible organizational structures to facilitate rapid responses to changes in market demands. The change is necessary because the traditional hierarchical organizational structures that focus on bureaucracy and activities by individual departments or units tend to dampen employees' initiatives and innovations (Bartlett and Ghoshal 1993). The management control systems in the new organizational models that have incorporated a greater level of employee empowerment and a flatter or network organizational structure are expected to play an integrative role that focus on the contributions and interrelationships of units within those organizations. Modern management practices, such as total quality management, business processes re-engineering, employee empowerment, cross-functional work teams and adoption of non-financial performance measures, are increasingly being adopted to complement the traditional accounting-based controls, to meet the serious challenges posed by the uncertainties and turbulence in the external environment. The flatter organizational structure and an enhancement in employee empowerment have made the traditional hierarchical responsibility center reporting system less necessary. Non-financial performance indicators, such as those suggested in the balanced scorecard concept (Kaplan and Norton 1992), are increasingly being incorporated to complement the traditional financial performance indicators to effectively assess the performance of the critical success factors of organizations

The earlier studies provided empirical evidence that firms in the more developed countries generally adapted their management control practices to changes in their corporate strategies. Most of the control measures examined were, however, accounting-based

controls. This study examines empirically the relationships between types of control practices (both accounting-based and modern management practices) and competitive priorities or orientations of firms in Malaysia. The findings would provide further empirical evidence on the adaptability of management control practices to changes in the competitive orientations of firms in the lesser-developed country like Malaysia.

## RESEARCH METHODOLOGY

*Data Collection*

A structured questionnaire was prepared and pre-tested on several practising managers to ensure clarity of terms used. Two hundred and fifty copies were sent to managers and executives of a randomly selected sample of organizations located in the Klang Valley. A total of 93 (37.5%) completed and useable questionnaires were returned and analyzed.

The questionnaire was divided into three sections: Section A requested for background information on the organization and the respondent, Section B focused on the attributes of the organization's management control system and the extent of usage of those control measures or practices; Section C required a respondent to rate, on a 5-point Likert scale, the perceived intensity of five different types of competition faced by his or her organization and consequently, their perceived importance of the corresponding five types of competitive priorities or orientations.

The types of competition examined in this study were based on the three of types of competition in Khandwalla's (1972) study, except that Khandwalla's product competition was further segregated into product quality, variety and innovation. With this modification, the five types of competition examined in this study were product price, quality, variety, innovation and service/promotion. The competitive priority or orientation in this study was defined as a firm's emphasis in its competitive strategy to achieve its competitive advantage and this is conceptually similar to Khandwalla's measure of importance of each type of competition to a firm's profitability. Each of the five types of competition was related to a competitive priority or orientation. For example, when a firm perceives a high intensity of competition in price, it is expected that the firm would place a high priority (or orientation) in formulating a low product price competitive strategy. A total of twelve management control measures or practices were listed[2]. Six of the management control measures or practices were accounting-based controls, such as use of financial budgets, standard cost variances and discounted cash flow techniques; while the other six were modern management control practices, such as total quality management, business process re-engineering, employee empowerment and inter-departmental work-team.

## RESULTS AND DISCUSSION

*Profiles of Respondents and Organizations*

The profiles of respondents and their organizations are summarized in Table 1. About 88.6% of the participating organizations were incorporated enterprises or limited companies. All limited companies in Malaysia are required legally to comply with stringent record-keeping and corporate disclosure or governance regulations. Most of the participating firms (46.2%) were from the manufacturing sector with services sector firms constituted 34.4% of the sample and more than two thirds of the organizations were Malaysian-owned enterprises. As for the respondents, more than 60% of the respondents held middle or senior management positions and about 90% of the respondents had either tertiary or professional qualification.

*Perceived Intensity of Competition and Competitive Priorities or Orientations*

The mean rating scores (and standard deviations) of the perceived intensity of the five types of competition, as well as those for the perceived importance of the corresponding competitive priorities or orientations are presented in Tables 2 and 3, respectively. On overall, the respondents perceived competition in product quality to be most intense and consistently, they rated *producing high quality product* to be their most

2 The control measures or practices were adopted from measures used in Khandwalla's study as well as those modern management practices discussed in the management literature. Respondents, however, were also allowed to state other management control practices used in their organizations.

TABLE 1
Profiles of respondents and organizations

| | |
|---|---|
| Position held: | |
| Senior management level | 18.2% |
| Middle management level | 44.3% |
| Junior management level | 37.5% |
| Age: | |
| < 30 years | 37.2% |
| 30 –45 years | 56.4% |
| > 45 years | 6.4% |
| Qualification: | |
| Tertiary | 52.7% |
| Professional | 37.4% |
| Others | 9.9% |
| Industrial Sector: | |
| Manufacturing | 46.2% |
| Services | 34.4% |
| Others | 19.4% |
| Number of Employees: | |
| < 100 | 30.9% |
| 100 – 500 | 45.7% |
| > 500 | 23.4% |
| Ownership: | |
| Local | 69.8% |
| Foreign | 30.2% |

important competitive priority or orientation. As can be seen from Table 3, the correlation between the intensity of each type of competition and importance of the corresponding competitive priority or orientation was highly significant ( $p < 0.001$), except that for the product service and promotion competitive priority or orientation.

TABLE 2
Mean rating scores and standard deviations of perceived intensity of the five types of competition

| Type of Competition | Mean Rating Score | Standard Deviation |
|---|---|---|
| Product Quality | 4.48 | 0.70 |
| Product Price | 4.05 | 0.94 |
| Product Service & Promotion | 3.90 | 1.12 |
| Product Uniqueness | 3.82 | 1.07 |
| Product Variety | 3.66 | 1.11 |

Scale: 1=very low; 5= very high

Analysis of the perceived intensity of competition by industry type generally shows the similar ranking as that in Table 2 for the manufacturing and the services sectors. Firms in the "other" sector, however, ranked intensity of price competition to be more intense than product quality. The firms in the "other" sector included several commodity-type firms, such as firms in the plantation sector and oil and gas sector. Despite of their higher perceived intensity of competition on price, firms in the "other" sector were, however, consistent with firms in the manufacturing and services sectors in ranking *producing high product quality* as their most important competitive priority. Local-owned firms perceived competition in product service/ promotion to be more intense than the foreign-owned firms (4.07 vs. 3.61; F=2.987; p=0.088). Generally, the rating scores of the large firms for both the perceived intensity of each type of

TABLE 3
Mean rating scores, standard deviations and correlations of perceived importance of five competitive priorities or orientations

| Competitive Priority or Orientation | Mean Rating Score | Standard Deviation | Correlation with the Corresponding Intensity of Competition |
|---|---|---|---|
| High Product Quality | 4.61 | 0.73 | 0.516** |
| Good Customer Service & Promotion | 4.17 | 0.90 | 0.166 |
| Low Product Price | 3.87 | 1.02 | 0.66** |
| Wide Product Variety | 3.85 | 1.17 | 0.703** |
| High Product Uniqueness | 3.74 | 1.17 | 0.522** |

Scale: 1=very unimportant; 5=very important
** significant at 0.01

competition and the perceived importance of the corresponding competitive priority were higher than those of the small firms. However, the differences were not statistically significant.

*Management Control Measures or Practices*

The twelve control items were classified into either accounting-based controls or modern management control practices. Items 1 to 6 in Table 4 were the accounting-based controls; while items 7 to 12 were the management control practices. The average of the mean scores of the six accounting-based controls[3] was higher than that for the management control practices[4] (3.20 vs. 3.00). A closer analysis of the mean scores in Table 4, however, indicates that there was a fairly balanced usage of accounting-based controls and modern management control practices, except for an apparent pervasive high or extensive usage of the *budget vs. actual* control measure, which was the only control measure with a mean rating score above 4.00. Besides *budget vs. actual*, there were two other accounting-based controls, namely *Internal Audit* and *Responsibility Reporting*, with mean rating scores above 3.00; while in the modern management practices category, there were four measures, namely *empowerment, inter-departmental work team, TQM and non-financial measures*, with mean rating scores above 3.00. This finding suggests that the firms, as a whole, are using a combination of accounting-based controls and non-accounting modern management practices to monitor and control their operations, as suggested in the management literature.

TABLE 4
Mean rating scores and standard deviations of management control measures or practices

| Type of Control Measure or Practice | Mean Rating Score | Standard Deviation |
|---|---|---|
| *Accounting-Based Controls:* | | |
| 1. Budget vs. Actual | 4.08 | 1.03 |
| 2. Internal Audit | 3.34 | 1.27 |
| 3. Responsibility Reporting | 3.29 | 1.16 |
| 4. Flexible Budgeting | 2.89 | 1.16 |
| 5. Standard Cost Variances | 2.87 | 1.17 |
| 6. Discounted Cash Flow Techniques | 2.64 | 1.26 |
| *Modern Management Practices:* | | |
| 7. Inter-departmental Work Team | 3.31 | 1.10 |
| 8. Empowerment | 3.31 | 0.87 |
| 9. Total Quality Management (TQM) | 3.06 | 1.14 |
| 10. Non-Financial Measures | 3.04 | 1.14 |
| 11. Business Process Re-engineering (BPR) | 2.69 | 1.11 |
| 12. Economic Order Quantity (EOQ) | 2.61 | 1.24 |
| Overall Accounting-Based Controls | 3.20 | 0.74 |
| Overall Management Control Practices | 3.00 | 0.75 |

Scale: 1=very low; 5=very high

3 The measure of the overall accounting controls was a composite measure, which was computed based on the mean rating scores of the six accounting-based controls. The reliability analysis of this overall measure showed a Cochran's alpha of 0.7041.

4 The measure of management control practices was a composite measure, which was computed based on the mean rating scores of the six management control practices. The reliability analysis of this overall measure showed a Cochran's alpha of 0.7642.

**Relationships Between Competitive Priorities or Orientations and Management Control Measures or Practices**

The results of the correlations between the management control variables and competitive orientations are summarized in Table 5 and they indicate a few instances of lack of proper alignment or incompatibilities as discussed below.

*Low Product Price Competitive Orientation*

Firms with a high priority for low product price as a competitive strategy are expected to emphasize highly on accounting-based controls to manage cost efficiency. Contrary to expectation, the correlation coefficients in Table 5 show that firms with high competitive priority or orientation for low product price were associated with low usage of four of the five accounting-based controls, namely *discounted cash flow techniques, internal audit, standard cost variances* and *responsibility reporting. Budget vs. actual* was the only accounting-based control that was positively correlated to *low product price orientation* and even then the association was not statistically significant. These firms with a high priority for low product price were also associated with low usage of all of the five modern management control practices. The association of low product price competitive priority with the overall usage of modern management control practices was negative and significant ($r = -0.197$; $p < 0.05$). The two specific modern management practices that exhibited significant negative relationships were *business process re-engineering (BPR)* and *inter-departmental work-teams.* BPR is used in activity analysis to eliminate non-value added activities to improve cost efficiency and yet this approach was seemingly "unpopular" with firms whose competitive priority was to compete based on cost efficiency.

*High Product Quality Competitive Orientation*

Firms with a high priority for product quality are expected to be positively associated with usage of *Total Quality Management (TQM).* This study found a positive association between priority for product quality and usage of TQM, but the relationship was not statistically significant. The overall association between this product quality orientation and the extent of usage of accounting-based controls and that of modern management control practices were positive, but not statistically significant.

*Wide Product Range and Product Uniqueness Competitive Orientations*

Firms with a high priority for either wide product range or product uniqueness are likely to be the prospector type of organizations that emphasize on flexibility and innovation. Table 5 shows that these firms were significantly associated with a high usage of control practices, irrespective of whether accounting-based controls or modern management practices. The finding of a highly significant association with *flexible budgeting* measure suggests that firms with high priority for wide product range or product uniqueness are aware of the need to constantly revise their budgets to reflect changes in the environment. A high emphasis on *budget vs. actual* in performance evaluation, however, could influence managers to favour short-term profits at the expense of long-term competitive advantage. The highly significant association between firms with product variety or innovation orientation and usage of *discounted cash flow techniques* for evaluating investment project proposals in these firms may also be incompatible with the notion that the traditional financial appraisal techniques are inappropriate for appraisal of certain strategic investment projects, which are very long-term in nature and whose future economic benefits are difficult to predict or ascertain. The need to satisfy the conventional financial criteria under *discounted cash flow techniques* often result in radical innovations being unfairly inhibited and discouraged (Finnie 1998).

*Good Sales Service & Promotion Competitive Orientation*

Firms with a high priority for good sales service and promotion, generally, exhibited positive associations with usage of both the accounting-based controls and modern management practices. The significant negative association with usage of *inter-departmental work team* suggests that firms with a high priority for good sales service and promotion may be still very hierarchical in their setups. The criticism for the traditional hierarchical structure is that its bureaucracy delays decision-making process and as a consequence, the firm is not likely to be very responsive to changes in customers' needs. *Inter-departmental work team* aims to facilitate decision-making by having team members from various functional areas to jointly respond to the changing demands of the markets.

*Non-Price Competitive Orientation*

A composite measure of non-price competition orientation[5] was computed based on the mean rating scores of the four non-financial competitive priorities or orientations. This measure was used as a surrogate measure of firms pursuing the differentiation strategy (Porter 1980). The results, as shown in Table 5, indicate a highly significant association between non-price competitive orientation and usage of both the accounting-based controls ($p < 0.01$) and the modern management control practices ($p < 0.05$). Firms with non-price competitive priority or orientation exhibited a significant usage of accounting-based measures like *budget vs. actual, discounted cash flow techniques* and *internal audit,* while also emphasized significantly on modern management control practices like *business process re-engineering* and *economic order quantity.* These findings are consistent with those in the earlier studies by Mak (1989) and Chung (1996), which reported that prospector firms (similar to differentiator firms) had a more extensive usage of controls due to their relative high environmental uncertainties.

The correlation between the overall perceived intensity of competition and the overall usage of management control measures was not significant, but the correlation between the overall intensity of non-price competition and overall usage of control measures or practices was highly significant ($p < 0.01$). This suggests that firms, which have a high level of perceived intensity of competition on no-price dimension, tend to have a high or extensive usage of management control measures or practices to

TABLE 5
Pearson correlations between competitive orientations and management control measures

| Management Control Measure or Practice | Competitive Orientation: Low Product Price | High Product Quality | Wide Product Range | Product Uniqueness | Product Promotion / Service | Non-price competition |
|---|---|---|---|---|---|---|
| 1. Budget vs. Actual | 0.072 | 0.039 | 0.268** | 0.134 | 0.189* | 0.242* |
| 2. Discounted Cash Flow Techniques | -0.07 | -0.045 | 0.265** | 0.25** | 0.174* | 0.222* |
| 3. Internal Audit | -0.031 | 0.002 | 0.176* | 0.175* | 0.157 | 0.212* |
| 4. Standard Cost Variances | -0.086 | 0.067 | 0.199* | 0.137 | 0.149 | 0.163 |
| 5. Responsibility Reporting | -0.134 | -0.037 | 0.107 | -0.021 | -0.153 | 0.017 |
| 6. Flexible budgeting | -0.103 | 0.025 | 0.211* | 0.247* | 0.033 | 0.173 |
| 7. Total Quality Management (TQM) | -0.095 | 0.108 | 0.166 | 0.175* | 0.141 | 0.202 |
| 8. Business Process Re-engineering (BPR) | -0.258** | 0.076 | 0.30** | 0.363** | 0.171* | 0.341** |
| 9. Economic Order Quantity (EOQ) | -0.039 | 0.054 | 0.227* | 0.171 | 0.126 | 0.216* |
| 10. Non-Financial Measures | -0.137 | 0.015 | 0.044 | 0.055 | -0.076 | 0.042 |
| 11. Inter-departmental Work Team | -0.187* | 0.153 | 0.044 | 0.062 | -0.193* | 0.065 |
| 12. Empowerment | -0.115 | 0.143 | 0.073 | 0.143 | -0.04 | 0.107 |
| Overall Accounting-Based Controls | -0.095 | 0.011 | 0.321** | 0.245* | 0.183 | 0.268** |
| Overall Management Control Practices | -0.202* | 0.13 | 0.215* | 0.238* | 0.057 | 0.242* |
| Overall Control Usage | -0.161 | 0.077 | 0.291** | 0.263* | 0.135 | 0.277* |

** Correlation is significant at the 0.01 level (1-tailed)
* Correlation is significant at the 0.05 level (1-tailed)

5 Its Cochran's Alpha was 0.7378.

monitor performance. This finding is partly consistent to that reported in Khandwalla (1972), who found a significant positive relationship between overall competition and the overall usage of controls with price competition having the least impact on usage of controls and product competition showing the greatest impact. He attributed that to the increasing expected net benefits from application of controls as competition intensified and the increase in expected net benefits was more evident with increasing product competition. This study did not find an overall significant positive relationship between overall intensity of competition and usage of controls because of the negative relationship between intensity of price competition and overall usage of controls.

From the analysis by type of competitive priority or orientation, the apparent lack of proper alignment or incompatibilities may be summarized as follows. Firms with a high competitive priority for *low product price* did not exhibit an extensive or high usage of accounting-based controls. Even though firms with a high competitive priority or orientation for *high product quality* did exhibit a positive association usage of *TQM*, the relationship was not statistically significant. Firms with high competitive priorities for *wide product range* and *product uniqueness* used extensively some accounting-based controls that might inhibit creativity and innovation. Despite of the trend towards a greater employee empowerment and greater usage of non-financial measures to monitor the critical success factors of firms pursuing product differentiation strategy (Porter 1980), the usage of employee empowerment and non-financial measures were not significantly related to any of the non-price competitive priority or orientation.

Further analysis indicated that size had a significant influence on the usage of the management control measures. The large enterprises had a significantly more extensive overall usage of control measures (F=3.677; p=0.029) than the small enterprises. The difference in usage of accounting-based controls between the large and small enterprises was highly significant (F=3.399; p=0.038). This might be because the large enterprises, which were likely to be incorporated businesses, are required to establish more formal accounting control systems to comply with the existing financial reporting and disclosure requirements. The difference in the usage of modern management control practices between the large and the small enterprises, was, however, only moderately significant (F=2.779; p=0.067).

## SUMMARY AND IMPLICATIONS

With the impending threats from globalization of the market place, businesses have to become more agile and responsive to the rapid changes in customers' needs. Competition based on non-price dimension is becoming more prevalent as trade barriers are being removed. Product life cycle is also becoming shorter and shorter, as more and more competitors enter the market. Hence, business enterprises are placing increasing emphasis on speed and responsiveness to satisfy the rapid changing needs of the market place, and on innovation to replace the rapid demise of their existing products and services. This study examines the perceptions of organizations on the intensity of five types of competition and their competitive orientations or priorities in response to their perceived intensity of the different types of competition. The results of this study indicate that the organizations were competing mainly based on product price, quality and service. Product uniqueness or innovation and wide product variety were rated as the lowest and the second lowest, respectively, in their list of competitive priorities. This observation is disturbing because survival in the new environment depends very much on the ability of a firm to innovate and extend its range of goods or services to the increasingly sophisticated and demanding buyers in the market place. This study also found evidence of a lack of proper alignment or incompatibilities between the use of control measures and certain competitive priorities or orientations. Firms with a high priority for low product price were found not to place high emphasis on accounting-based controls to manage their cost efficiency. Firms with a high competitive priority or orientation for producing high quality products were also not significantly associated to those with a high or extensive use of TQM and this is not in accord with the findings in the more developed countries, such as that reported in Ittner and Larcker (1997). The use of non-financial measures and employee empowerment was not significantly related to any of the non-price competitive priorities or orientations.

The finding of a lack of proper alignment or incompatibilities between usage of type of control measures and certain competitive priorities or orientations of firms suggests that there may be deficiencies in the design of management control systems in these firms and as a consequence, managers in these firms may not be able to effectively utilize the formal control processes to coordinate and control their operating activities to achieve competitive advantages, as intended in their firms' competitive strategies. The current study, however, is unable to identify the causes for the lack of alignment or incompatibilities, except to provide some empirical evidence of the extent of alignment in the usage of management controls to firms' competitive priorities or orientations. With the imminent trend towards globalization, the apparent lack of proper alignment may be detriment to these firms' abilities to formulate the appropriate strategies to compete with other world-class players.

Management literature has stressed on the importance of a strategic fit in the designing their management control systems and these control systems have to be modified when strategy changes in response to environmental changes. Unfortunately, management control systems often remain unchanged even though competitive strategy might have already been changed, resulting in incompatibilities as those observed in this study. Although Khandawalla (1972) opined that firms were still far from designing optimal control systems, he, however, reckoned that accountants could help the design of better control systems with proper quantification of the intangible costs and benefits of controls. In order for the designers of management control systems to be able to evaluate the effectiveness of various control measures, there must be effective communications between the formulators of the new strategy and the designers of management control systems to avoid any strategic misalignment. This is in accord with Simons (1990) who advocated the interactive management control processes, whereby a firm's competitive strategic positioning, management control measures and process of strategy formulation influence one another as the firm evolves and adapts over time, to manage and align management controls to the emerging strategy. The implementation of an effective interactive management control process requires a more open communication structure and freer flow of information within the firm.

## REFERENCES


ARGYRIS, C. 1990. The dilemma of implementing controls: the case of managerial accounting. *Accounting, Organizations and Society* **15:** 503-512.

BARLETT, C.A. and S. GHOSAL. 1993. Beyond the M-form: toward a managerial theory of the firm. *Strategic Management Journal* **14:** 23-46.

CHENHALL, R.H. 1997. Reliance on manufacturing performance measures, total quality management and organizational performance. *Management Accounting Research* **8:** 187-206.

CHUNG, L.H. 1996. Management control systems and business strategy: an empirical study of electronics and electrical firms in Singapore. *Singapore Management Review* **18:** 39 – 54.

DANIEL, S.J. and W.D. REITSPERGER. 1991. Linking quality strategy with management control systems: empirical evidence from Japanese industry. *Accounting, Organizations and Society* **16(7):** 601-618.

GOVINDARAJAN, V. and A.K. GUPTA.1985. Linking control systems in business unit strategy: impact on performance. *Accounting, Organizations and Society* **10:** 51-66.

HIROMOTO, T. 1988. Another hidden edge – Japanese management accounting. *Harvard Business Review* **66(4):** 22-26.

HOQUE, Z. and T. HOPPER. 1994. Rationality, accounting and politics: a case study of management control in a Bangladeshi Jute Mill. *Management Accounting Research* **5:** 5-30.

ITTNER, C.D. and D.F. LARCKER. 1997. Quality strategy, strategic control systems and organizational performance. *Accounting, Organizations and Society* **22 (3/4):** 294- 314.

KAPLAN, R.S. and D.P. NORTON. 1992. The balanced scorecard – measures that drive performance. *Harvard Business Review* **70(1):** 71-79.

KHANDWALLA, P.N. 1972. The effect of different types of competition on the use of management controls. *Journal of Accounting Research* **10:** 275 – 286.

LANGFIELD-SMITH, K. 1997. Management control systems and strategy: a critical review. *Accounting, Organizations and Society* **22(2):** 207-232.

MAK, Y. 1989. Contingency fit, internal consistency and financial performance. *Journal of Business Finance and Accounting* **16(1):** 273 – 300.

MILES, R.E. and C.C. SNOW. 1978. *Organizational Strategy, Structure and Process.* N.Y.: McGraw-Hill.

MILLER, D. and P.H. FRIESEN.1982. Innovation in conservative and entrepreneurial firms: two models of strategic momentum. *Strategic Management Journal* **3:** 1-25.

OTLEY, D.T. 1980. The contingency theory of management accounting: achievement and prognosis. *Accounting, Organizations and Society* **5:** 413 – 428.

PERERA, S., G. HARRISON and M. POOLE. 1997. Customer-focused, manufacturing strategy and the use of operation-based non-financial performance measures: a research note. *Accounting, Organizations and Society* **22(6):** 557-572.

PORTER, M. E. 1980. *Competitive Strategy.* New York: Free Press.

SIM, A.B. and H.Y. TEOH. 1997. Relationships between business strategy, environment and controls: a three country study. *Journal of Applied Business Research* **13(4):** 57- 69.

SIMONS, R. 1990. The role of management control systems in creating competitive advantage: new perspectives. *Accounting, Organizations and Society* **12(1/2):** 127-143.