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THE MEDIATING EFFECTS OF ORGANIZATIONAL LEARNING ORIENTATION ON THE RELATIONSHIP BETWEEN STRATEGIC MANAGEMENT ACCOUNTING INFORMATION USE AND ORGANIZATIONAL PERFORMANCE

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Abstract

The use of strategic management accounting information is a key ingredient for organizational success. However, past literature suggests that examining the direct effects of strategic management accounting information use and organizational performance provides an incomplete picture. Several studies suggest that the use of strategic information enhances organizational performance through organizational learning orientation. However, the focus of past studies was not on strategic management accounting (SMA) information. In addition, it is unclear as to whether the use of strategic management accounting information could have a positive impact on organizational learning orientation which in turn enhances the performance of local government authorities (LGAs) in Malaysia. Hence, this study empirically examined the mediating effect of organizational learning orientation on the relationship between the SMA information use and organizational performance. Using data collected from 109 LGAs in Malaysia, the result supports the positive direct effect of SMA information use and organizational performance. Further analysis of mediating effect of learning orientation suggests that higher usage of SMA information is one of the support mechanism for organizational learning in response to the information generated. Subsequently, an organization learning enhances their ability to respond to changes in the environment which in turn contributes to better financial and service quality performance. For managers of Malaysian LGAs, the findings of the

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study suggest that the use of SMA information and learning orientation are an important mechanism to improve the level of financial and service quality performance.

Introduction

Traditional management accounting practice was criticized for placing too much emphasis on internal operation and the use of past information for decision-making (Bromwich, 1990; Cadez and Guilding, 2008; Kaplan and Norton, 1992). Failure to produce external related information that include both financial and non-financial data would lead managers to limit their focus to the operational issues. In other words, information provided by traditional management accounting technique lack strategic issues related to policy, strategy and direction of an organization which is important for sustainable competitive advantage. Therefore, the extension of traditional management accounting by incorporating more strategic information is argued to be able to facilitate more effective decision for managers (Simmonds, 1981; Bromwich, 1990). The use of future and external information that comprises of not only financial but also non-financial related information is important to face the uncertainty of environment and to support strategic decisions. The increasing importance of gathering external related information from outside the boundaries of the organization for strategic decisions has been consistently argued in management accounting literature (Kaplan and Norton, 1992; Simmonds, 1981; Bromwich, 1990).

As such Strategic Management Accounting (SMA) came to prominence in the late 1980s as one of the range of new management accounting techniques and approaches designed to restore the so-called lost relevance of traditional management accounting (Bromwich and Bhimani, 1994; Guilding and McManus, 2002; Ouksel, Mihavics and Chalos, 1997). The use of SMA technique enables an organization to develop new business strategies and set clear organizational goal. Wilson (1995) suggested that weak organizational performance often due to poor information system allows vital information to be overlooked. SMA techniques that focus on the provision more comprehensive information enable managers to make more appropriate decisions (Bromwich, 1990; Kaplan and Norton, 1992; Simmonds, 1981).

Accounting information is utilized in organizational learning as the raw material of learning (Ouksel et al., 1997). Accounting information plays a critical role in creating new knowledge and updating the organization's shared mental models (Choe, 2004). Young and Selto (1991) found that an information shortage causes many problems in the manufacturing process because of ineffective learning. Sim and Killough (1998) proposes that more frequent reporting of non-financial information such as quality and customer satisfaction can increase organizational performance

through learning. Organizational learning therefore should mediate the relationship between SMA information use and organizational performance

Recent SMA literature have conceptually agreed that the use of SMA technique provides external and future related information in the public sector and is necessary for internal efficiency and effectiveness of public sector (Lamberti and Noci, 2006; Smith, 2000). Yet there is a lack of empirical study on the impact of SMA technique use and public sector performance. Hence the objective of this study is to provide empirical evidence about the relationship between SMA information use and organizational performance. Subsequently, this study aims to investigate the mediating effect learning orientation has on the relationship between SMA information use and organizational performance.

The remainder of this paper is structured as follows. The next section provides a review of relevant literature and hypotheses underpinning this study. Section 3 outlines the research design. Data analysis results are presented in section 4. A discussion and conclusion are provided in the last section

Literature Review and Hypothesis Development

Strategic Management Accounting (SMA) Information Use

The term SMA was first introduced by Simmonds, in 1981. Yet to date, there is still no agreed definition of SMA. Simmonds (1981) defined SMA as the provision and analysis of management accounting data about a business and its competition for the use in developing and monitoring business strategy. CIMA defined SMA as technique that emphasise on external as well as non-financial and internally generated information. Roslender (1995) conceptualized SMA as an integration of marketing literature into management accounting. Guilding et al. (2000) identified 12 management accounting techniques that can be classified under SMA. The authors suggested that SMA comprises techniques that are environmental (outward looking) and/or long term (forward looking). Those techniques are attribute costing, brand value budgeting and monitoring, competitor cost assessment, competitive position monitoring, competitor appraisal based on published financial statement, life cycle costing, quality costing, strategic costing, strategic pricing, target costing and value chain costing. Cadez and Guildin (2008) add further four management accounting techniques of benchmarking, customer profitability analysis, integrated performance measurement and life time customer profitability analysis.

The link between SMA usage and performance has not been extensively explored. The lack of studies in this area could be due to lack of consensus on the conceptual definition of SMA. This provides a motivation to further explore

into this area of study. Studies have shown that for an organization to be successful it must effectively manage information. Information has become a critical intangible asset that, when managed properly, can be used to leverage other firm resources (Tippins and Sohi, 2003). The role of information is to support managerial decision making and control. Organizations that posses better information would be able to facilitate managers to make more effective decisions which in turn would improve organizational performance (Chenhall, 2003). Within the management accounting literature, researchers have conceptually agreed that the use of strategic information have been important for managers to make effective decisions (Cadez and Guilding, 2008; Chenhall, 2003). They have argued that the ability of managers to obtain and use information about market, customer, competitors and supplier has helped an organization to be more ready to adapt to the changes in the environment and could result in a SCA. However, Galbraith (1982) has described an organization as information processing unit which means that organizations have to receive, process and act on information received. Meanwhile, Choe (2002) has argued that for an organization to be successful it must effectively manage information. This is supported by Sampler (1998) who has suggested that an ability to use the information is a source of value creation which leads to sustainable competitive advantage.

However, only certain types of information are considered valuable for strategic decision making. This is supported by management accounting scholars who have argued that traditional management accounting practices have failed to provide managers with relevant information (Kaplan and Norton, 1992; Bromwich, 1990). On the other hand, new management accounting practices such as the adoption of the balanced score card, benchmarking, competitors' performance evaluation and strategic planning have provided managers with a broad scope of information which is crucial for strategic decision making (Guilding, 1999; Bromwich, 1990). This new management accounting technique which is known as the SMA technique which is characterized by those techniques that highlight the use of financial and non-financial information about internal operation as well as external information about market and competitors (Guilding, Cravens and Tayles, 2000; Roslender and Hart, 2002). The extension of the traditional management accounting by incorporating more strategic information has been argued to be able to facilitate more effective decision for managers (Simmonds, 1981; Bromwich, 1990). The increasing importance of gathering information from outside the boundaries of the organization for strategic decisions has been consistently debated in management accounting literature. The use of information about market and competitors has been important for managers to plan and subsequently position their organization above the average performance.

Extensive studies have been conducted to examine the relationship between the use of information and its effect on organizational performance. Chenhall (2003) has argued that organizations with better information have facilitated managers to take more effective decisions which in turn has led to better organizational performance. A positive association between the use of accounting information and performance has been confirmed in many prior empirical studies. For example, Abernethy and Guthrie (1994) have provided evidence that the use of broad scope information has been associated with better performance. Meanwhile, Mia and Chenhall (1994) have found that a higher usage of broad scope of management accounting information has also been associated with higher performance for marketing activities. Mia and Clarke (1999) have discovered that the use of benchmarking and monitoring information provided by SMA have positively affected performance. Ghani and Said (2010) have discovered that greater Balanced Score Card (BSC) usage among Malaysian local authorities has been associated with better service quality performance. Guilding, Cravens and Tayles (2000) have revealed that the SMA information usage has been associated with greater performance. Sari (2005) has found a positive relationship between the SMA information usage and organizational performance among companies in Indonesia. Hence, it is posited that the use of SMA information is positively related to organizational performance.

H1: There is a significant positive relationship between the SMA information use and financial performance.

H2: There is a significant positive relationship between the SMA information use and service quality performance

Mediating Effects of Learning Orientation (LO) on the Relationship between SMA Information Use and Organizational Performance

Extensive research have been conducted and agreed that the use of strategic information enhances organizational performance. However, the question whether the use of strategic information could enhance organizational performance through learning has been debated among scholars and practitioners. Baker and Sinkula (1999) have argued that an organization with high learning orientation has been committed to systematically challenging the beliefs and practices and has the ability to learn faster than competitors. According to the organizational Learning Theory (Argris, 1977) information is a necessary source for learning to occur. In order for the learning process to be effective, information generated must be distributed to the rest of the members of the organization. A group of studies has examined the role of information as facilitator to organizational learning (e.g. Choe, 2002; Farrell and Oczkowski, 2002; Irani, Sharif and Love, 2001; Kloot, 1997; Scott, 2000; Sim and Killough, 1998 and Wang and Hsiao-Lan, 2005). For

example, Farrell and Oczkowski (2002) as well as Wang and Hsiao-Lan (2005) have focused on the role information of market orientation, and they have discovered that this information has enhanced the culture of learning.

Within the organizational learning literature, studies have shown that learning has enhanced organizational members' ability to adapt to change in the environment. As such, in order to have continuous improvement, an organization should prepare the condition or circumstances that facilitate organizational learning activities. According to Nevis et al. (1995), a good condition for learning, has been an environment that would encourage learning to occur. Since the learning orientation involved the sharing of individual learning, it has been inherently a group process. Through inter-organizational knowledge sharing, the knowledge of these members can be pooled and shared. The interaction and communication between individuals have served as a means to enhance the exchange of information in the organization.

In management accounting research, this researcher has found consistent findings to show that the use of accounting information has enhanced organizational learning orientation. For example Driver (2001) has found that the newer form of management accounting system such as the Activity Based Costing (ABC) has been a useful tool for learning in business organization and the ABC can support both adaptive and generative learning. Banker et al. (1993) has proved that the learning effects from the successful implementation of new manufacturing practices and performance reporting has led to identification of ways to improve the operation. Irani et al. (2001) have examined the role of manufacturing information systems on organizational learning. Choe (2002) has empirically examined the effects of frequent and quick reporting of information on organizational learning. The finding has revealed that the provision of information has enhanced performance through learning.

Similarly, Kloot (1997) has related management control systems to organizational learning and has concluded that management accounting information has played a critical role in detecting and solving problems caused by change. This in turn has resulted in generative or double loop learning. Sim and Killough (1998) have proposed more frequent reporting of non-financial performance information such as quality and customer satisfaction has enhanced organizational learning. However, these empirical studies have not directly examined the role of SMA information as a facilitator of organizational learning. The information gathered by SMA for the purpose of focusing attention on problematic areas and improving understanding can often be used to question whether the current practices are still relevant in the changing environment. This is supported by Coopey (1995) who has suggested that the use of management accounting information can affect the perception that existing goals no longer match with the external challenges and a different perspective needs to be adopted. This suggests that information is

one of the key sources towards organizational learning orientation. As suggested by Nonaka, (1994) that information is a necessary source for knowledge generation. A few years later, Kloot (1997) supported Nonaka's idea and has suggested that information has been a raw material for learning to occur..

Scholars have conceptually agreed that information produced by the management accounting information system can improve performance through organizational learning. Information provided by SMA on an integrated performance measure can be used to encourage employees to behave in accordance with the strategies (Kaplan, 1984). In addition, other non-financial, future and external information provided by SMA has enabled the organization to plan and act strategically and implement the chosen strategy (Bromwich, 1990; Cadez and Guilding, 2008). The non-financial information such as quality, customer complain, customer satisfaction and supplier reputation has enhanced the organization's commitment towards learning. This has suggested that learning would require the capacity to know the problems, outcomes and opportunities, with the goal of making appropriate decisions.

SMA information which is closely related with the provision of strategic information to support the cost reduction process, the elimination of non-value added activities and the benchmarking process, has led to the integration of information from across the organization. This has promoted the creation of knowledge through sharing of information. Several studies by Chenhall (1997), Sim and Killough (1998) and Fullerton and Mc Watter (2002), have adopted an organizational learning perspective to identify the relevant type of management accounting information that was required by the firm. Accounting information has been well recognized as an important source of learning. For instance, Ouksel, Mihavics and Chalos (1997) have argued that accounting information has been raw material of learning. This was further supported by Choe (2004) who has suggested that accounting information has played a critical role in creating new knowledge and updating the organization's shared mental models. Young and Selto (1991) have found that an information shortage has caused many problems in the manufacturing process due to ineffective learning. Sim and Killough (1998) have proposed that more frequent reporting of non-financial performance information such as quality and customer satisfaction, could increase organizational performance through learning. Organizational learning therefore should mediate the relationship between the SMA information use and organizational performance which has led to the following hypotheses:

H3: Learning orientation mediates the relationship between the SMA information use and organizational financial performance

H4: Learning orientation mediates the relationship between the SMA information use and service quality performance

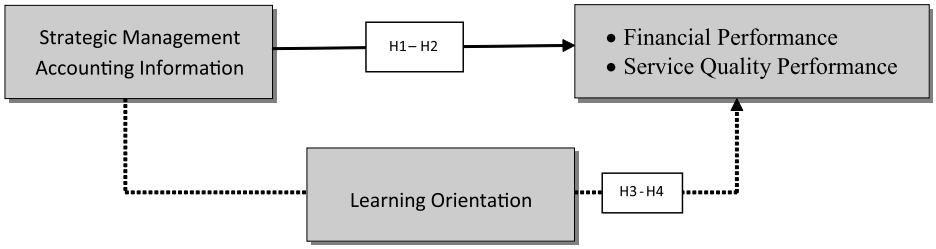

Figure 1: Conceptual Framework

Methodology and Research Design

Sample

This study uses a structured questionnaire distributed to all Malaysian LGAs. There are 146 LGAs in Malaysia. All the 146 LGAs are invited to participate in this study to maximize the possible respondents. The population frame was obtained from the Ministry of Housing and Local Government of Malaysia. The principal informant method was used and the Mayor/president were identified as the key informants. This was considered the most appropriate approach as Mayor/ president are best positioned to have the broadest knowledge of the issues under investigation.

Measurement of Variables

SMA Information Use

The measurement of SMA information use is adopted from Guilding et al. (2002) with appropriate contextual modification. Respondents are asked to rate on a seven point scale ranging from (1 = never use at all, 7 = extensively use) on six SMA techniques chosen for this study; benchmarking, integrated performance measurement, strategic planning, value chain analysis, quality costing and comparative performance evaluation.

Learning Orientation

The measurement for LO was adopted from Baker and Sinkula, 1999a; Calantone, Cavusgil, and Zhao, 2002. LO consists of main elements such as commitment to learning, shared-vision, open-mindedness and inter-organizational knowledge-sharing. Commitment to learning refers to the degree to which an organization value and promote learning. Shared-vision is important because it will influence direction of learning by providing in the understanding of what needs to be learned. Open-mindedness refers to the willingness to critically evaluate the organization's operational routine and accept new ideas (Calantone, 2002). According to Baker

& Sinkula (1999) open mindedness helps an organization to create a future by opening the door to new view and translates it into action. An organization with high level of open-minded members, tend to think out of the box. LO emphasizes on the value of knowledge-sharing so that past success and failure can be shared among organizational members. Respondents are asked to rate on a seven point scale ranging from strongly disagree (1) to strongly agree (7) on the degree that each statement describes the situation related to LO within their organization.

Organizational Financial Performance

Respondents were asked to rate their organizational financial performance in term of their ability to reduction in bed debt, ability to operate within budget, ability to achieve budgeted cost reduction and ability to achieve budgeted revenue collection. Respondents are asked to evaluate their organizational performance for the past 3 years against average performance using scale ranging from 1 (much worse) to 7 (much better).

Organizational Service Quality Performance

The measurement of service quality performance is adapted from Parasuraman, Zeithaml & Berry (1988). Respondents were also asked to rate their service quality performance in terms of reliability, responsiveness, assurance, empathy and how tangible it is. Respondents are asked to evaluate their organizational performance for the past 3 years against average performance using a scale ranging from 1 (much worse) to 7 (much better) on physical appearance, reliability of service delivery, level of staff responsiveness in attending to customers, staff competency in carrying out task, staff skills and service accuracy in providing service.

Results and Discussion

Of the 146 questionnaires distributed, 109 were returned representing a response rate of 75%. Before testing the hypotheses in this study, tests of reliability, normality and response bias are performed. Reliability for each construct measurement was assessed using the coefficient alpha which was obtained using a reliability analysis using SPSS package version 15. The coefficient alpha of each construct was compared to the cut-off value of .70 suggested by Nunnaly (1967). Skewness and kurtosis test were carried out to confirm the normality of data distribution. The z-value for skewness and kurtosis for all the variables range from .664 to -.852 indicating that normality could be assumed at the .01 probability level. Response bias test was also conducted. The response from the first mailing that were received before cut-off date and the second mailing after the phone call reminder were compared. Levene's test for equality of variances shows value range from 0.594 to 0.980 ($p > .05$), which indicates

that there is no significant difference between the mean score of the two groups, that is, no response bias was detected. The results of the correlation test have provided a preliminary finding on a significant positive relationship between SMA information use and service quality performance (r = .466) and financial performance (r = . 443). Table 1 summarized the finding of Skewness, Kurtosis, Reliability and Pearson Correlation Coefficients

Table 1: Results of Skewness, Kurtosis, Reliability and Pearson Correlation Coefficients

Variables	Skewness	Kurtosis	Cronbach Alpha	1	2	3	4
1. SMA Information use	-.852	.446	.864	1			
2. Learning Orientation	-.705	-.089	.906	.504(**)	1		
3. Service Quality Performance	-.815	.664	.963	.466(**)	.686(**)	1	
4. Financial Performance	-.656	.347	.887	.443(**)	.418(**)	.612(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

Regression analysis is used to test the mediating effect as suggested by Baron and Kenny (1986). Following the procedure outline by Baron and Kenny (1986), this would include a set of three tests;1) regressing the mediator on the independent variable, 2) regressing the dependent variable on the independent variable 3) regressing the dependent variable on both the independent variable and mediator. According to Baron and Kenny (1986) all these three conditions must be met to establish a mediation relationship.

SMA Information Use and Organizational Performance

The first objective of the study is to examine the direct effects of strategic management accounting information use and organizational performance. Table 2 shows the results of direct relationship between SMA information use and organizational performance. The finding indicate that there is a strong positive relationship between SMA information use and organizational financial and service quality performance (B = .429; T-value = 5.968, p = .004 and B = .470; T-value = 5.555, p = .000) respectively. Hence, H1 and H2 are accepted. This has implied that the use of information provided under the SMA technique has enabled top management of Malaysian LGAs to react better in response to changes of the needs of customer, employee as well as business opportunities. This is consistent with Elnathan, Lin and Young (1996) who has found that the practice of benchmarking technique has created a competitive environment. This finding is also consistent with Cadez et al. (2008); Collier and Gregory (1995); Dixon (1998); Lord (1996); Rickwood et al. (1990). This result is also in line with the long held view of management accounting textbooks that have

Table 2

Step 1		Coefficient	T-value	Sig	Support
H1	SMA – financial performance	.429	5.968	.000	Yes
H2	SMA – service quality performance	.470	5.555	.000	Yes

argued for the proper use of accounting information which has the potential to improve performance (Kaplan and Atkinson, 1998; Drury, 2000).

The Mediating Effects of Learning Orientation

The second objective of this study was to examine the mediating effects of the learning orientation on the relationship between the SMA information use and organizational performance. This objective was based on the premise that SMA practices such as benchmarking, long term strategic planning and value chain analysis could provide managers of Malaysian LGAs with more strategic information that could enhance the culture of organizational learning which in turn could enhance organizational performance. This is in line with the theory of learning that has argued that information was an important source of learning. The role of information as a source of learning has been well established in the literature (Choe, 2002; Irani, Sharif and Love, 2001; Kloot, 1997; Scott, 2000; Sim and Killough, 1998). Table 3 shows the result of regression analysis between SMA information use and learning orientation. The finding exhibited a strong positive relationship between SMA information use and learning orientation (B = .465, T value = 6.621, p = .000). Subsequently, a regression analysis is conducted to test whether there is positive relationship between learning orientation and organizational performance. Table 3 Panel B provide a strong support between learning orientation on service quality (B = .677, T value = 10.746, p = .000) and financial performance (B = .469, T value = 5.155, p = .000).

Table 3

Panel A	Hypotheses	Coefficient	T-value	Sig	Support
Step 2	SMA – LO	.465	6.621	.000	Yes
Panel B	LO – service quality performance	.677	10.746	.000	Yes
	LO – financial performance	.469	5.155	.000	Yes

The next step is the test of simultaneous effects of both SMA information and LO on organizational performance. Table 4 shows a significant positive relationship of both the predictor variable (SMA information use, B = .151, T value = 2.238, p = .027) and mediator variable (learning orientation, B = .598, T value = 8.376, p = .000) on service quality performance. Hence, it can be

concluded that LO mediate the relationship between SMA and service quality performance. Since, both the predictor and mediator variable shows significant positive relationship to the dependent variable, the result demonstrates partial mediation. Hence, H3 is accepted.

Similar findings were found on the mediating effect of learning orientation on financial performance. Table 5 shows the result of simultaneous effects of both SMA information and LO on financial performance. The finding revealed that the simultaneous effect of both SMA (B = .333, T value = 3.517, p = .027) and learning orientation (B = .294, T value = 2.930, p = .004) to financial performance is significant. Since, both the SMA and learning orientation shows significant positive relationship to the dependent variable, the result demonstrates, partial mediation. Hence, H4 is accepted.

Table 4 : The Simultaneous Effects of Both SMA Information and LO on Service Quality Performance

	Coefficient	T-value	Sig	Support
SMA	.151	2.238	.027	Yes
LO	.598	8.376	.000	Partial mediation

Table 5 : The Simultaneous Effects of Both SMA Information and LO on Financial Performance

	Coefficient	T-value	Sig	Support
SMA	.333	3.517	.001	Yes
LO	.294	2.930	.004	Partial mediation

This finding suggests that the effects of new management accounting practices such as benchmarking, performance measurement system, competitor performance evaluation, value chain analysis and quality costing on organizational performance is found to exert through the mechanism of organizational learning. This finding extends existing literature that suggest a simple direct relationship between SMA information and organizational performance (Guilding 2000,2008: Collier and Gregory 1995; Dixon 1998; Lord 1996; Rickwood et al 1990) while providing empirical evidence that a complex relationship describes and explains the linkage of strategic information use to organizational performance.

Discussions and Conclusions

This study has focused on the SMA information use that has provided managers with strategic information. The test has attempted to identify whether there was a positive relationship between the SMA information use and organizational

performance. In line with the government emphasis on the performance of the public sector agencies in Malaysia, the use of SMA has been regarded as one effective tool to overcome the inherent limitations of traditional management accounting (Smith, 2000; Lamberti and Noci, 2006). The SMA information use has referred to the level of organizational usage on information related to internal operation as well as external information on the market, competitors and environment. According to Guilding (2000), the information needed for organizational to sustain its competitive advantage was information that has provided insight into operations as well as external related information including information about competitors. In addition, the author has suggested that the use of non-financial related information such as productivity and efficiency of processes and the quality output has enabled an organization to pursue continuous improvement mission. Therefore, it has been expected that the more usage of SMA information would result in a better organizational performance than any organization that has used less of SMA information in their decision making. The results of the regression analysis have provided support that the SMA information use has been positively associated to organizational financial and service quality performance. This finding has been consistent with Cadez et al. (2008) who has discovered a positive relationship between the SMA information use and organizational performance among large Slovenian companies**.** Similar finding was revealed in a study by Sari (2005) among companies listed in the Jakarta Stock Exchange.

The use of SMA information derived from the adoption of the SMA techniques such as benchmarking technique, integrated performance measurement, strategic planning, quality costing and competitors' performance evaluation has provided strategic information that has acted as a tool to encourage competition and the adoption of the best practices. The use of strategic information has motivated organizational staff members to examine the relevant best practices of the benchmarking organization and to seek ways and means to adopt and improve upon its application in their own organizations. This has allowed the managers to plan and identify means and ways to increase revenue collection, reducing bad-debt as well as meeting the budgeted cost. For example, the benchmarking technique of SMA has enabled the Malaysian LGAs to introduce electronic payment that has allowed the members of the public to pay their rent, tax and fees online. Therefore, the online services have been made accessible to the members of the public at any time and from any place without being constrained by the Malaysian LGAs working hours. As a result, the use of SMA information has led to better revenue collection among the Malaysian LGAs.

The finding of this study also suggested that, in the Malaysian LGAs the effects of SMA information use derived from SMA practices such as benchmarking,

competitor performance evaluation, value chain analysis and quality costing on organizational performance has found to motivate the culture of learning. This finding has extended existing literature that suggest a simple direct relationship between SMA information and organizational performance (Guilding, 2000; Collier and Gregory, 1995; Dixon, 1998; Lord, 1996; Rickwood et al., 1990) while providing empirical evidence that a complex relationship has described and explained the linkage of the SMA information use to organizational performance. The results of this study have provided support that the SMA information use has enabled Malaysian LGAs to be more committed to learning orientation in response to the information derived from the SMA information use. The SMA information use which has emphasized on external, future and non-financial information such as information about quality improvement programmes, productivity, waste and customer satisfaction has been expected to motivate organizational members to act strategically and to implement the chosen strategy which was appropriate for the culture of learning.

This has implied that the Malaysian LGAs that have used strategic information generated through the practice of SMA technique, has had the ability to provide management with the feedback and knowledge that was necessary for learning orientation to occur. For example, the practice of benchmarking and competitors' performance evaluation would encourage the organization's staff members to share the knowledge learnt to the whole organization so that improvement programmes could be strategized. This is in line with Nonaka's (1994) argument that information was a necessary material in organizational learning for knowledge creation. In addition, Argris (1977) has argued that the primary roles of accounting systems was to provide information for learning about problems, outcomes and opportunities with the goal of making appropriate decisions. This empirical result has suggested that the provision of strategic information is appropriate for the facilitator of organizational learning within the Malaysian LGAs. From the results of the test, it can be concluded that higher levels of SMA usage could motivate more information sharing and a higher commitment to learning among organizational staff members.

Limitations and Future Research

There are several limitations of this study. First, in this study the sample is taken from a single industry, namely LGAs. Although this sampling frame was allowed to control for environmental factors and to provide results for the major sectors, it is not certain if the findings of this study can be generalized to other sectors. Replication of this study to other sectors would be useful in order to address the question of generalizability. Second, drawback of this study is the use of single informants as a source of information of both dependent and

independent variables. Although the use of single informants remain the primary research design in most studies (Prieto and Revilla, 2006). The use of multiple data source such as objective data would increase the validity of the finding. Third, this study provides a cross sectional picture at a single point in time, which means the recommendations are applicable only if external variables are unaffected. Nonetheless, the findings on the consequences do shed light on the understanding of the impacts of SMA information use and learning orientation on organizational performance.

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