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Integrated Performance Measurement System in Small and Medium Enterprises: The Role of Leadership and Decision-Making Style

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ABSTRACT

The purpose of this study is to observe the integrated performance measurement system (IPMS) based on the perspective of Small and Medium Enterprises (SMEs). Building on the upper echelons perspective, the study investigates the role of SME entrepreneurs/top management leadership in determining the implementation of IPMS to assist them in making decisions. IPMS is a useful managerial tool for measuring and improving the decision-making and control process among the SMEs. Our results, based on a survey administered to 90 SMEs, reveal that leadership style has no direct effect on the IPMS practice. Instead, the decision-making style mediates the relationship between the leadership style and IPMS. Regardless of the different leadership styles, we find that a comprehensive decision approach is the way of making decisions that emphasize the integration between financial and nonfinancial measures, and between internal and external factors.

Keywords: Integrated Performance Measurement System; leadership; decision-making style; small and medium enterprises

INTRODUCTION

The performance measurement system (PMS) has been identified as a tool that can assist small and medium enterprises (SMEs) in managing their businesses. The system not only monitors and reports past performance but also guides SMEs in positioning their businesses strategically (Bianzzo & Bernandi 2003; Garengo et al. 2005; Taticchi et al. 2010). The PMS articulates and provides the road map linking the strategy into appropriate actions. By detailing every action through financial and nonfinancial measures, the causal relationships between actions and results, and short-term and long-term objectives can be established, which, ultimately, is associated with a firm's better financial performance (Hoque & James 2000; Davis & Albright 2004; Grigoroudis et al. 2012).

Many SMEs already have some form of monitoring system in place. However, they tend to have a narrow focus, concentrating on short-term achievement without proper planning for future success (Garengo & Bernandi 2007). Their short-term orientation is mainly due to not having sufficient knowledge with regards to the market conditions as well as the strong tendency of personalized management style among the SMEs (Coyte et al. 2012). Given the intensity of the present market competition, along with the rapid development in the information and communication technologies, the lack of knowledge or managerial inexperience is no longer a permissible excuse. Indeed to be sustainable, firms need to be proactive in moving towards success. Thus, the present situation creates a favourable context for the implementation of a performance measurement system in SMEs. Through such a system, the available information can be used to develop knowledge pertaining to their work environment (Hall 2010). Cocca and Alberti (2011) even consider such information as being a means to gain a competitive advantage and continuously react and adapt to the market changes. By measuring and understanding their own performance, SMEs may identify possible means to endure the competitive pressure caused by the market (Yusof & Aspinwall 2000; Underdown & Talluri 2002). Although the literature and government agency reports highlight the importance of performance measurement systems for controlling and making decisions in supporting the development of SMEs, empirical investigation pertaining to PMS practices is noticeably underdeveloped (Hudson et al. 2001; Taticchi et al. 2010). Therefore, the aim of this paper is to observe the practice of PMS among the SMEs. This study observes the integrativeness of the measures considering relevant factors and their related dimensions in managing SMEs. By 'integrated', means that the system consists of balanced and causally related financial and nonfinancial measures that encapsulate both internal and external factors (Laitinen 2002). An integrated performance measurement system (IPMS) may be the most powerful management control mechanism to enhance the probability of the successful implementation of a strategy (Fitzgerald et al. 1991). Accordingly, when financial and nonfinancial, and internal and external factors, as well as past and future measures are incorporated in a single control framework, SMEs can monitor performance in several areas simultaneously in order to enable effective and efficient control and decision-making. In addition, owing to today's intensified market condition,

being sensitive to changes in the internal and external environments is also pertinent in order to be responsive to the market changes.

Various factors have been identified as determinants of PMS adoption within the SMEs. Among the factors are age, size, location and type of industry, limited resources, lack of funding and managerial incompetence (Hudson et al. 2001; Davidsson et al. 2002; Taticchi et al. 2010). Nonetheless, these factors may not be able to represent all peculiarities in SMEs. The ownership structure of SMEs, which is often characterized by either a single or a group of individuals, has a powerful influence on the management style of SMEs (Flacke & Segbers 2005). Didonet et al. (2012) emphasize that the owner's/top manager's personalized management style determines the style of SMEs in doing business. The owner(s) are so dominant that they make most decisions in the firm. In a similar vein, they also have a significant influence on the adoption of performance measurement in their firms. Considering the pivotal role of the SMEs owners/ top managers in determining the business path, this study also aims to understand how their leadership style may influence the performance measurement practices. The knowledge may provide an understanding concerning the effect of the personality traits of SME leaders on the management control practices.

The study offers several contributions to the PMS and SMEs literature. First, the study identifies the desirable attributes of using the system that are perceived to be important within the SMEs. The findings indicate that the SMEs placed greater emphasis on the role of PMS in managing their daily operations, as well as reporting on their past business performance. Thus, the study provides evidence on the extent to which PMS information is used to facilitate and support the SMEs' managerial decisions. Second, the study explores the significance of SMEs owner's leadership and decision making style in determining the use of PMS. The study also makes a contribution to the literature by providing a Malaysian perspective on the issue of SMEs' PMS practices. Given the paucity of empirical investigation involving Malaysian SMEs, this study attempts to fill the gap and contribute a meaningful PMS knowledge to the SMEs as the wave of economic transformation requires SMEs to be controlled and managed effectively and efficiently. To the owners/ top management team and policy makers, the evidence demonstrates the relevance of PMS in managing the SMEs.

The remainder of this paper is organized as follows. The following section develops the understanding on SMEs' IPMS and entrepreneurs/top management style, and, subsequently, introduces the hypothesized relationships. Section 3 presents the research method. Discussion on the findings is presented in Section 4, and, finally, Section 5 summarizes and concludes the paper with some comment on the limitations and direction for future research.

Hypotheses Development

Integrated Performance Measurement System (IPMS)

The more complex a situation, the more varied and comprehensive the PMS needs to be, to capture the reality adequately. In identifying the features of an effective system, the indicators should be derived from strategy (Kaplan & Norton 1996); clearly defined targets and objectives (Otley 1999), relevant and easy to maintain, timely and accurate feedback, and also stimulate continuous improvement (Neely et al. 2000). Performance measurement is much more than just a collection of measures. According to Bititci et al. (1997), its integrity and deployment are the key features of an effective system. They define integrity as the ability of the performance measurement system to promote the integration of various dimensions/measures, and describe deployment as the ability to transform the business objectives and policies into actions. Likewise, Garengo and Bernandi (2007) affirm the importance of integration and deployment in building up IPMS, which transforms the intended strategy into action. The transformation process, however, needs to be well planned and controlled. To do so, SMEs require a system that establishes links between planning, decisions, actions and results. Only then can IPMS be the tool to communicate and facilitate the strategic positioning activities.

Discussion on the characteristics of IPMS underlines the criteria of a good system. Among the characteristics are that it should be comprehensive, causally related, vertically and horizontally integrated, internally comparable and useful (Caplice & Sheffi 1995). Laitinen (2002) explicates the importance of the comprehensiveness of performance measures by identifying the key external factors (i.e. financial performance and competitiveness) and five internal measures (i.e. costs, production factors, activities, product and revenue). Laitinen's framework is somewhat similar to the balanced scorecard's principle of establishing cause-and-effect relationships between resource allocation/consumption and the expected results. Wettstein and Kueng (2002), on the other hand, view the issue of IPMS from a different perspective emphasizing the scope of measurement, data collection, storage of data, use of performance measures, quality of measurement process and communication of performance results. Garengo (2009), however, proposed an IPMS framework specifically for the SMEs that focused on the characteristics (i.e. how SMEs are using the measures) and scope (i.e. what dimensions are measured) of the system. A number of IPMS frameworks have been proposed for SMEs. Drawn upon past studies, Cocca and Alberti (2010) offer another framework for SMEs consisting of three main dimensions, namely:

1. Performance measurement requirements, i.e. transformation of strategy into action measures integrating all measurement dimensions

2. Characteristics of the measurement system as a whole, i.e. a well-balanced system (dimensions, types of measure, causal relationship)
3. Performance measurement process, i.e. manager's/ employees' commitment and support in implementing the system as an effective managerial tool.

Clearly, all the features discussed are within the established concepts of contemporary performance measurement (see Franco-Santos et al. 2012). The emphasis on integrated measurement is to draw attention to having a broader business set of success measures rather than relying solely on the traditional financial and market share measures. Such a control approach is necessary to guide management, especially in facing today's stringent market competition. Hence IPMS not only helps managers to monitor the organizational internal and external factors closely, but also to ensure that the firm is taking the right action in moving towards its objectives. Unfortunately, discussion on the IPMS framework is mostly the normative proposition. Taking into account the limited study on SMEs, particularly in a developing country like Malaysia, this study attempts to explore the types of performance measurement system that are being practiced by the entrepreneurs.

ENTREPRENEURS/TOP MANAGEMENT LEADERSHIP

The support from the entrepreneurs/top management is necessary in creating a feasible working environment that facilitates the progress of IPMS implementation. Their commitment and strong interest in setting up the system have been acknowledged to be a catalyst in facilitating the development and acceptance of IPMS as a means of control. In this case, the influence coming from the top management is expected to be more significant in SMEs as the businesses are mostly owned and managed by one or a group of individuals.

The argument is consistent with the upper echelons perspective that postulates that organizational outcomes are partially attributed to the background characteristics of the top managers (Hambrick & Manson 1984). The theory recognizes the pertinent influence of top managers in determining the strategic choices to be adopted by the organization. The notion is applicable in diverse contexts (Carpenter et al. 2004). Hence, from the business standpoint, they are the ones who determine the strategy and organizational goals (Garengo & Bernardi 2007). Drawing upon the upper echelons perspective, Naranjo-Gil and Hartman (2007) investigated the significance of the role of top management in designing and implementing a management accounting system and found that it is the top management team that decide on the strategic choices and the use of management accounting systems in the firms. Garengo and Bernandi (2007) also report similar findings emphasizing that the choice of the control approach is a reflection of the leader's values and cognitive bases.

While the literature has widely recognized that leadership style affects the way the management control system is designed and used, little is known concerning how the SMEs leadership may affect the implementation of IPMS. Researchers have strongly emphasized the importance of having effective control systems to achieve the vision of the top management (Scherr & Jensen 2006; Abernethy et al. 2010). Following the well established leadership concept, the leadership style is classified as either "initiating structure" or "consideration". The initiating structure is the degree to which a leader defines and organizes their role and the role of their followers. It is oriented towards goal attainment and establishes well-defined patterns and channels of communication. In contrast, consideration style leaders seek to build trust and express respect in communicating with subordinates. Hence, Jensen (2011), in establishing the concept of leadership and management control, associates an initiating structure leader with the use of financial accounting data and result controls in evaluating performance; while consideration style leaders are associated with participative budgeting as a means to accept and incorporate the views of their subordinates.

Regardless of the personality traits of the leaders, the leaders must be able to communicate their strategies and transform them into actions. Leaders also need a means that can encourage and monitor the level of effectiveness and efficiency among the workers (DeCoster & Fertakis 1968). Hence, IPMS can be the tool for conveying such messages to the subordinates. Through the targeted key performance indicators (KPIs), leaders may communicate and impose their vision and expectations on the employees. Such an understanding is pertinent to the SMEs, especially in facing the present market challenge. Again, the likelihood of adopting IPMS depends upon the leaders' belief in the value of having such a form of control. Thus, leadership trait is expected to influence the level of emphasis placed on IPMS.

Given the nature of the consideration of leadership style through which the leaders involve and share information with their subordinates, it is hypothesized that they will place greater emphasis on IPMS. In contrast, initiating type leaders tend to focus more on certain standards and measures, such as production costs, ROI, ROE and their derivatives. Therefore, it is predicted that those entrepreneurs/top managers with:

H_1: Consideration style of leadership will place high emphasis on IPMS

H_2: Initiating structure style of leadership will place low emphasis on IPMS

DECISION-MAKING STYLE

Conspicuously, the top management leadership determines the style used to make decisions. In fact, Elsass and Graves (1997) perceive decision-making as the heart of leadership, and the literature has established that different leaders gravitate to different decision-making styles.

Decision-making is a process of identifying problems and the possibilities for their solving that includes the efforts taken before and after the decision is made. Since the entrepreneurs/top management of SMEs are making most of the decisions, it is important to understand how the difference in leadership traits may influence their decision-making style, and, subsequently, determine the level of emphasis on IPMS.

Decision theory postulates that different decision-making styles are inclined to be different with respect to the type of information used, alternatives considered and the integration of multiple inputs (Eisenhardt 1989). The speed of decision-making will not necessarily be slow when the decision-maker uses more comprehensive information. The reason being that when a person understands the situation really well rapid decisions can still be made even when integrating multiple sources of input. Extending Eisenhardt's theory, Tatum et al. (2003) classify the decision-making style into the restricted versus the comprehensive approach. The restricted decision-making style does not mean it is inferior to the comprehensive style, as both styles can lead to the right decisions in the right context (Driver & Mock 1975). The restricted style can be described as the situation where the decision does not require a complex process, and, in fact, where integrating too much information is unnecessary. In contrast, the comprehensive decision-making style may incorporate more and different types of information from multiple inputs. Following the classification scheme of Tatum et al. (2003), the relationship between leadership and the decision-making style is tested.

As discussed earlier, the consideration style leaders involve others in their decision-making process. Hence, it is reasonable to assume that such leaders try to integrate as much information as possible to form their visions and galvanize their subordinates, and are more likely to adopt the comprehensive decision-making style. Initiating structure leaders, on the other hand, tend to focus on their set standard and try to avoid unrelated information. The tendency is that initiating structure leaders will choose to adopt a more restricted form of decision-making. Therefore, it is predicted that:

H_3: There is a positive relationship between the consideration style of leadership and the comprehensive decision-making style

H_4: There is a positive relationship between the initiating structure style of leadership and the restricted decision-making style

Accordingly, the implementation of IPMS may assist the leaders in the process of making sound decisions. Therefore, the following hypothesis is tested:

H_5: The relationship between the leadership style and the emphasis on IPMS is indirect through the leader's decision-making approach

Research Method

The sampling frame for this study was SME firms operating in Malaysia, based on data published in the Malaysian SME Business Directory (2010) that are classified into four sectors – primary agriculture, manufacturing (including agro-based), manufacturing-related services and services (including information and communications technology). The National SME Development Council (2013) defines SMEs as firms with sales turnover not exceeding RM50 million or employment not exceeding 200 workers. Hence, an extensive search of SME Corp Portal was undertaken to compile the mailing list for each sector. Samples were randomly selected from the lists using proportionate stratified sampling. Data were collected by administering a mail questionnaire survey to 750 SMEs operating in Malaysia. Similar to Collin and Jarvis (2002), the respondents were either the SME owners or top management depending upon the firms' management structure. Of these 750 firms, 90 (12%) sent complete responses. The respondents covered a variety of sectors representing the diversified operations of SMEs. The responses were subjected to the usual tests for randomness compared with the total sample and no discernible differences were observed. Table 1 presents the profile of the responding firms. Forty-two of the respondents were the owners, whereas the remaining 53.6% respondents were representing the top management team. Like Che Rohana et al. (2008), the respondents were either the managing director or managers as they were in the position with the most comprehensive knowledge of management issues in the firms.

Measurement of Variables

Leadership style was measured using Stodgill and Coons (1957) typology, which Moores and Yuen (2001) reconstructed into survey questions. To measure the consideration style of leadership, respondents were asked to indicate on a 7-point scale, the degree of emphasis on the following activities:

1. Trying the ideas of subordinates in the group
2. Putting suggestions made by subordinates into practice
3. Making his/her attitudes clear to the group
4. Treating all units equally
5. Giving advance prior notice to changes
6. Looking out for the personal welfare of business units

High scores on these items indicated a higher emphasis on the consideration leadership style.

For the initiating structure leaders, they were asked to indicate on a 7-point scale, their degree of emphasis on the following activities:

1. Making the business units know what is expected from them
2. Asking all the business units to follow the set standards, rules and regulations

TABLE 1. Profile of Responding Firms

	Frequency	%
Activities		
Electrical & electronics	5	
Metal & metal products	1	5.6
Furniture & parts	4	1.1
Food, beverages & tobacco	4	4.4
Textile & footwear	6	4.4
Storage & logistics	1	6.7
Marketing	3	1.1
Agricultural	7	3.3
Wholesale & retail	12	7.8
IT related services	6	13.3
Business services	17	6.7
Healthcare	7	18.9
Construction	6	7.8
Livestock, fishing & aquaculture	2	6.7
Others	9	2.2
Total	90	
Sales turnover		
Below RM200,000	17	
Between RM200,00 – RM250,000	20	56.7
Between RM250,001 – RM1,000,000	20	22.2
Between RM1,000,001 – RM10,000,000	15	8.9
Between RM10,000,001 – RM25,000,000	6	12.2
Between RM25,000,001 – RM50,000,000	10	
Total	90	
Total number of employees		
20 and below	37	56.7
Between 20 – 50	31	22.2
Between 51 – 150	20	8.9
Between 150 – 200	2	12.2
Total	90	
Owner		
Yes	42	46.6
No	48	53.4
Total	90	

High scores indicated a higher emphasis on initiating structure leadership style. The examination of the leadership style revealed that they were adequate for factor analysis. Results of the factor analysis are summarized in Table 2.

Decision-making style was measured using a similar instrument used by Moores and Yuen (2001). A six-item survey question, which demonstrated the properties of restricted and comprehensive decision-making style, was posed to the respondents asking them to rate on a 7-point scale the degree of emphasis on the listed activities. Items were loaded onto one component – measuring the decision-making style. Scale one indicated a highly restricted decision approach, while scale seven indicated a highly comprehensive approach (refer to Table 2).

Integrated Performance Measurement System (IPMS) was measured using the instrument of Chenhall (2005) and Mohd Amir et al. (2010), which was modified to match the SME environment. Using a 20-item question, respondents were asked to indicate on a seven-point scale ranging from one (not at all) to seven (to a very great extent), the level to which particular characteristics described the performance measurement system of their firms. Four items (i.e. measures on external factors, nonfinancial indicators, suppliers' activities and financial measures) did not load satisfactorily, and, thus, were dropped from further analysis. Table 2 shows the items that successfully loaded onto two components of IPMS. Factor 1 illustrates the role of IPMS in managing the day-to-day business operations of SMEs, while Factor 2 signifies the traditional attributes of the performance measurement system in reporting past financial performance and keeping things on track. The Cronbach's alphas for all the factors were above 0.80, thereby indicating the satisfactory internal reliability for the scale.

TABLE 2. Summary of Factor Loadings

Factor Label	Items	Factor loadings (component matrix)	
Consideration Leadership (all items loaded on one factor)			
Consideration Leadership (α = 0.919) (Eigenvalue=4.278, % of variance= 71.308)			
	Equal treatment	879	
	Management vision	.862	
	Advance notice	.858	
	Units' personal welfare	.846	
	Puts suggestions made	.810	
	Tries subordinates' ideas	.809	
Initiating structure (α = 0.888) (Eigenvalue=1.801, % of variance= 90.048)			
	Notify expectation	.949	
	Set standards and rules	.949	
Decision-making Style (α = 0.881) (Eigenvalue=3.479, % of variance= 69.579)			
	Concern about future plans	.906	
	Considering all units	.867	
	Responsive to external factors	.835	
	Analyse major decisions	.787	
	React to trends	.768	
Integrated Performance Measurement System		Factor loadings	
		I	II
I. *Managing Tool (α = 0.881) (Eigenvalue=3.479, % of variance= 69.579)*			
	Link operations/strategies	.929	.125
	Systematic basis	.890	.160
	Timeframe	.890	.207
	Customer measures	.888	.206
	Innovation measures	.875	.108
	Business process measures	.833	.301
	Link performance/customers	.817	.231
	Link activities/objectives	.783	.207
	Formal & informal procedures	.778	.316
	Evaluate performance	.715	.247
	Continuous reporting	.690	.305
	Immediate reporting	.572	.261
	Internal factors	.517	.311
II. *Monitoring Tool (α = 0.881) (Eigenvalue=3.479, % of variance= 69.579)*			
	Financial indicators	.127	945
	Past performance	.095	.735
	Early warning signals	.298	.611

RESULTS

Table 3 presents the descriptive statistics for the variables. In general, the statistics show that IPMS components have means greater than 3.5 indicating that the distribution of scores was skewed towards agreement. The results indicated the likeness of the presence of both financial emphasis as well as strategic measures in the system. Meanwhile, as hypothesized, the correlation matrix in Table 4 shows that consideration leadership is strongly and positively associated with decision-making style (r=0.774, $p<0.01$) and both dimensions of IPMS ($p<0.01$). Similarly, initiating structure is also correlated significantly and positively with the decision-making and IPMS dimensions, which differs from the expected relationships. These preliminary findings suggested the possibility that the initiating structure leaders place significant emphasis on comprehensive decision-making as part of the IPMS dimensions. Finally, the positive correlations between decision-making style and the two IPMS dimensions signify the role of PMS as a management decision-making tool.

HYPOTHESES TESTING

The hypotheses were tested using partial SEM data analysis through partial aggregation of measurement within the structural model, which is proposed whenever the sample size is small (Von der Heidt & Scott 2007). Instead of confirming the factor, partial SEM analyses each manifest variable using a single summated score. First, a full model containing all the links among the variables was run. This included paths that were hypothesized as well as those

TABLE 3. Descriptive Statistics

Variables	Theoretical range	Actual range	Mean	S.D.
Consideration Leadership	1-7	1.00-6.83	4.758	1.192
Initiating Structure Leadership	1-7	1.00-7.00	5.130	1.265
Decision-making Style	1-7	1.20-6.80	4.898	1.103
IPMS – Managing Tool	1-7	1.00-7.00	4.882	1.087
IPMS – Monitoring Tool	1-7	1.00-7.20	4.877	1.061

TABLE 4. Correlation Matrix

	1	2	3	4	5
Consideration Leadership	1				
Initiating Structure Leadership	.780**	1			
Decision-making Style	.774**	.778**	1		
IPMS – Managing Tool	.592**	.661**	.772**	1	
IPMS – Monitoring Tool	.503**	.505**	.609**	.789**	1

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

that were not hypothesized. This was to allow all possible relationships to be examined in the causal chain (Fleming et al. 2009). The results for the full model (Figure 1 Panel A) indicated an acceptable model fit (i.e. X^2=0.163, df=1, CF=0.98, RMSEA=0.01). Insignificant paths were reported between leadership style and IPMS components, while other paths indicated significant relationships. Retaining only the significant paths yielded an improved model fit (i.e. X^2=0.018, df=1, CF=1.00, RMSEA=0.00). The final path model is presented in Panel B of Figure 1.

Test of H_1 and H_2: Leadership and IPMS. H_1 and H_2 predicted that leadership style has a direct effect on the IPMS practices. Although prior studies (Garengo & Bernandi 2007; Abernethy et al. 2010) signify the importance of leadership style in determining the use of management control tools, the findings do not support the hypothesized relationships. The insignificant paths between consideration style and initiating structure style of leadership traits and IPMS components, as depicted in Panel A Figure 1, implied that the leadership style is not the predictor of entrepreneurs/top management team on the use of performance measurement system, and, therefore, H_1 and H_2 are not supported.

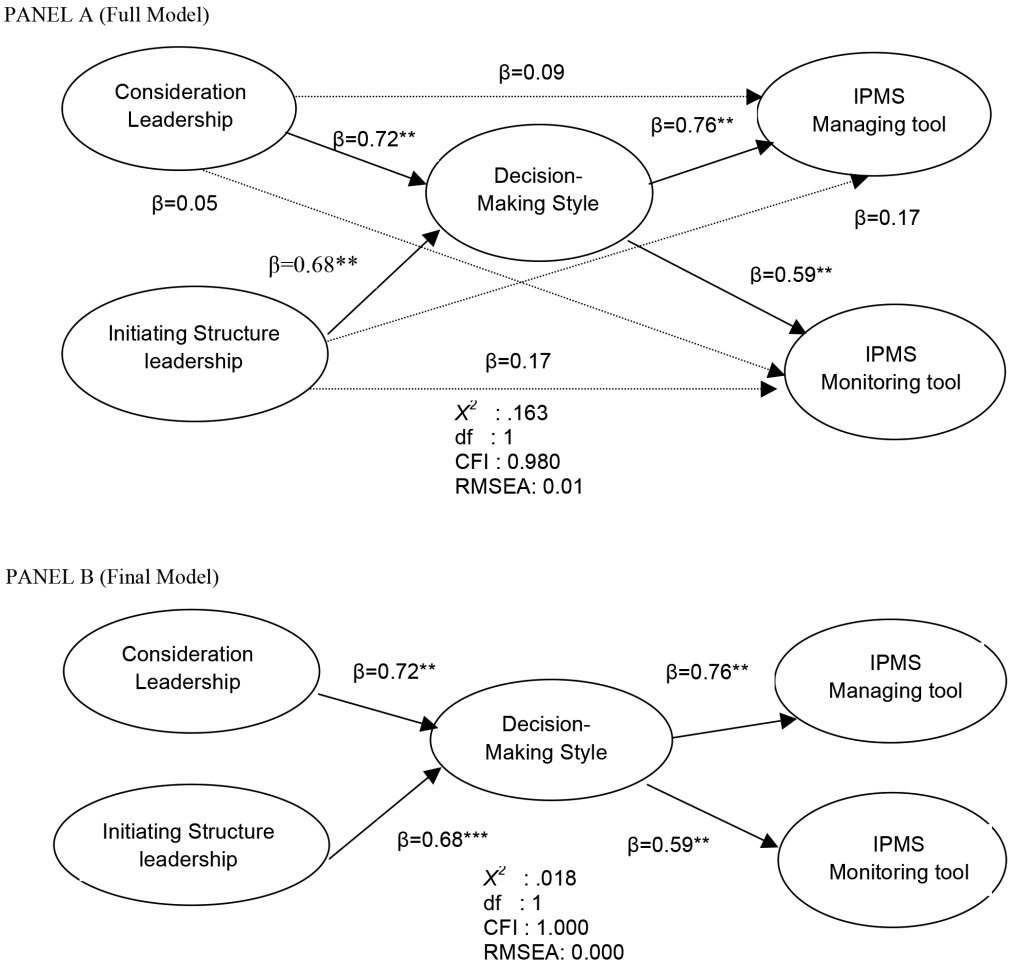
Test of H_3 and H_4: Leadership and decision-making. Subsequently H_3 and H_4 predicted that the leadership traits determine the style of decision-making. Consistent with the observation of Elsass and Graves (1997), there is a significant direct relationship between the leadership and decision-making style. The analysis, as depicted in Figure 1 Panel B, provides evidence that both leadership traits were significantly related to the decision-making style. H_3 stated that consideration leaders are positively related to comprehensive decision-making style. The significant positive relationship between consideration leadership and decision-making style (β=0.72, p<0.01) provides support for H_3. Despite the earlier expectation that initiating structure leadership should be negatively associated with the decision-making style, representing the restricted style of decision-making, the analysis shows that initiating structure leadership is also positively and significantly (β=0.68, p<0.01) related to the decision-making style. Unlike the premise of Tatum et al. (2003), the findings present a slightly different perspective suggesting that leaders, regardless of their personality traits, need comprehensive knowledge on an issue prior to making any decision. Therefore, H_4 is not supported.

Test of H_5: Leadership and IPMS through decision-making style. H_5 is supported as significant paths are shown in Panel B Figure 1. The relationships signify the role of decision-making style as a mediator between the SME's leadership style and the practice of IPMS. Coinciding with the findings of H_3 and H_4, the integration of both managing and monitoring measures are required to assist leaders in their decision-making process.

Taken as a whole, the findings indicated that the IPMS is becoming a useful tool among the SMEs. Instead of the existing assumption that their focus is mainly on short-term financial performance, the findings indicated their changing perspective to incorporate broader performance measures. The significance of the IPMS managing tool (i.e. strategic non-financial measures) together with the monitoring component (financial measures) denoted the pertinence of integrating financial and nonfinancial measure in managing today's business.

CONCLUSION

Research in this area has normatively argued the importance of having a proper control mechanism, particularly discussing the design and role of the performance measurement system among SMEs. Considering the limited



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

FIGURE 1. Results of Path Analysis

empirical evidence to explore the real practice among them, this study was undertaken to extend the body of knowledge by examining the use of such a system among the SMEs. To the SMEs, the IPMS could be viewed as a key business control tool that is pertinent for the future well-being and prosperity of any SME. In essence, the IPMS is an integration of traditional and contemporary measurement dimensions. Although, both dimensions should be equally important in today's economy, the present belief is that SMEs are still tied to the traditional approach concentrating mainly on short-term financial performance. However, the evidence suggests a different argument in that both financial and nonfinancial aspects are considered important to the SMEs. Having such information is becoming crucial, especially in facing the intensified competition that demands reliable and relevant information to assist management in making the right decision. IPMS is a means for enduring the market pressure. Clearly, the market development is a contributing factor towards the changing beliefs.

Recognizing the dominance of the owners/top management team in making most decisions, their interest in having such a system was studied. Their leadership styles are seen as a predictor of the adoption of the system to help them in making decisions. Unlike prior evidence (Abernethy et al. 2010), leadership style is not a predictor concerning the choice of IPMS practice. Instead the relationship between IPMS adoption and the leadership style is being fully mediated through their decision-making style. The evidence reflects the uniqueness of SMEs business that stem from the Malaysian perspective. Given the owners/top management team limited management knowledge, along with their informal control style, this explain the less likeness of the management to promote IPMS directly. Inevitably, the changes in the global market demand that the businesses to think and decide strategically. For that reason, a systematic control tools such as IPMS which could capture the necessary information is pertinent to facilitate the decision process. Thus, it supports the mediating role of decision-making style. Clearly, this authenticates the literature that the decision-making style is the heart of a leader's success, where IPMS acts as the catalyst to achieve their vision.

However, the results should be taken with caution. First, the study suffered from all the limitations inherent in using cross-sectional research design in which the data are a snapshot of the firms' practices in a dynamic environment. A single empirical study, such as this, in any case, could not be viewed as conclusive. Hence, the study should be part of a larger longitudinal empirical investigation to enhance the understanding of IPMS practices among SMES. To enhance the understanding, further investigation could be undertaken in light of the study's preliminary findings. It is thought that the findings of this study would have a higher degree of confidence if the sample size is larger. The low response rate limits the statistical power of the results and the application of more advanced statistical techniques. A larger sample size results in more reliable findings. Next, the questions are based on perceptions. Thus, the responses may represent what the respondents perceived to be the fact rather than the actual fact itself. Future research could improve the validity of the findings by using other theories such institutional theory and stakeholder theory. Notwithstanding the limitations, the results suggest that much can be learned about the characteristics of IPMS in the SME setting. To the SMEs and regulators, the adoption of formal control such as IPMS is way to compete in today's stringent business market. In order to be ready for such control tools, educating the SMEs might be the preliminary move considering that "*knowledge is power, information is liberating, education is the premise of progress in every society*" (Kofi Annan, http://www.brainyquote.com/quotes/quotes/k/kofiannan389917.html).

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