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STRATEGIC MANAGEMENT ACCOUNTING INFORMATION AND PERFORMANCE OF PRIVATE HOSPITALS IN MALAYSIA

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ABSTRACT

Strategic Management Accounting (SMA) information plays an important role in managing competitive advantage of an organization. SMA is one of the main management accounting practices; it is external, concentrates on the future, qualitative, and utilized by organizations to attain strategic goals. The study's objectives are determining the extent of SMA information usage and the correlation between SMA and Malaysian private hospital performance. This study expects SMA information to significantly impact Malaysian hospitals' performance. A survey was employed using hospitals as samples. Data were collected by self-administered questionnaires. The Partial Least Squares (PLS) 3.0 had been used to examine the responses of Malaysian private hospitals. The findings indicate that SMA information (which encompasses analyses on competitor, client and product data) has positive significant effects on performance. The findings also show that Malaysian private hospitals moderately use SMA information. This study contributes to the literature on SMA of service industry, especially in the healthcare sector. Findings of this study can be used by managers to improve SMA information to achieve competitive advantage.

JEL Classification: I19, L10, M41

Key words: Strategic Management Accounting, Hospitals, Customer information, Competitor information, Product information

1. INTRODUCTION

The Malaysian government through the 10th Malaysia Plan (2011-2020) has recognized healthcare as part of the 12 National Key Economic Areas. The contribution and investments of this sector are expected to assist the nation to achieve high-income status by 2020. Economic Areas. It is expected that the contribution and investments of this sector will assist the nation to achieve the high-income status by 2020. The healthcare sector is currently presented with both challenges and opportunities as results of the volatile market, and this includes the increased expectation in healthcare quality (Shazali et al., 2013). Moreover, in the last few years, in line with international healthcare practices, Malaysian policymakers and patients have exerted increasing pressure on health organizations to improve their quality and efficiency (Sinnadurai and Fong, 2015).

The healthcare sector fits into this study for three reasons. First, healthcare facilities have unusual characteristics as business entities because of the nature of their activities that involve health services and management. Second, most of the healthcare facilities are capital-intensive businesses and assets are used in the long term, which means that investments must be planned strategically over a wide planning horizon. Third, a key component in this sector is the aim to take care of peoples' health, which is a motive that helps improve hospital performance, according to many studies. Third, a key component in this sector is the aim to take care of peoples' health, which is a motive that helps improve the performance of hospitals according to many studies. Ridder et al. (2007) argued that hospitals have to adapt to the competitive environment by executing a widespread reorganization of their processes, structures, and culture, thus implying a shift from a bureaucratic organization into a more economic means of patient treatment with new forms of hospital.

Because of their business nature, healthcare facilities which revolve around health services and management, have distinctive attributes. Due to their business nature, healthcare facilities which revolve around health services and management, have distinctive attributes. Healthcare facilities are capital intensive, and as their assets will be utilized over a long period, proper strategic planning is crucial. As mentioned above, healthcare facilities are capital intensive Moreover, improvement in performance is warranted in this sector as they take care of people’s health. As a part of the healthcare system, there are various types of treatment centers, such as hospitals and private

clinics. Given the stiff competition faced by private hospitals, there is a greater challenge to ensure their level of competitiveness. The formality of information gathered through Strategic Management Accounting (SMA) may assist in terms of knowledge about competitors, customers, and products.

Many researchers studied SMA application in an industrial sector (AlMaryani and Sadik 2012; Cinquini and Tenucci 2007; Mohd Yusof et al., 2012; Guilding et al., 2000; Ramljak and Rogošić 2012; Rickwood, Coates, and Stacey, 1990; Tillmann and Goddard 2008). Noordin et al. (2015) discuss the paucity of studies involving the use of SMA information in the service sector and propose future research in this area. Since most literature on SMA focuses on corporations that are non-hospitals, there is very limited empirical evidence on SMA practices in hospitals (Lachmann, Knauer, and Trapp, 2013). For hospital environment, the literature mainly analyzes the conventional management accounting practices as well as the control system utilized from the perspective of changing environment (Naranjo-Gil and Hartmann, 2006). However, whether the particular use of SMA is implemented remains unexplored. The study intends to examine the impact of SMA information, which is illustrated through analyses on customer, competitor and product data, on the private hospitals' performance. The study also explores the usage level of SMA information among these hospitals in Malaysia.

This paper is organized as follows. The section on literature review provides an overview on information and performance of SMA, and continues with the explanation on theoretical framework and development of hypothesis. The methodology section presents the method on data collection as well as the examination of data. This is followed by results and discussion, and ends with the conclusion.

2. LITERATURE REVIEW

2.1 SMA INFORMATION

Langfield-Smith (2008), in her review of SMA 25 years after its introduction, mentions that the SMA practices are not being extensively implemented and comprehended; nevertheless, it has been proven that SMA attributes do impact and affect organizations. Langfield-Smith (2008) recommends that rather than focusing on SMA techniques and adoption/execution, future studies on SMA should concentrate on

organizations' utilization of management accounting information. The information elements that constitute SMA are explained by Noordin, Zainuddin, and Tayles (2009). In today's competitive environment, organizations are applying SMA information in a wide array of applications. However, studies that examine the elements of accounting information remain limited (Zakaria, 2015). The current research conceptualizes SMA information as information regarding an organization's competitors, customers, as well as products and services (Hussein, Maelah, and Mohd Amir, 2016).

2.1.1 CUSTOMER INFORMATION ANALYSIS

Noordin et al. (2015) discussed the role of SMA information elements in enhancing performance. They classified SMA information into three elements: customer information analysis, competitor information analysis, and product information analysis. The result of their study indicates the importance of SMA information usage for enhancing organizational performance. Mohd Yusof et al. (2012) contended that recognizing the importance of customer information enables the organization to determine customer needs. Moreover, elements of customer-focused approach is one of the most important elements of strategic priorities (Kaplan and Norton, 2001). Porter (1980) mentions that in business, success is highly dependent upon customer satisfaction. Successful organizations consider management accounting information which aligns with their objectives towards customer-orientation (Bromwich, 1990). In aligning with their customer-oriented goals, the management accounting system will be considered by successful companies (Bromwich, 1990).

Application of customer-related information is vital in attaining customer-related goals; hence collecting customer information is a good move. The information allows organizations to have more efficient communication with potential valuable customers, tailor-make products that suit customer requirements, enhance the retaining and fulfilling of customers' needs, as well as identify and use the opportunities of unique products/services.

Customer relationship management (CRM) has been employed by Campbell (2003); Chang, Wong and Fang (2014); Paquette (2011); Reinartz, Krafft, and Hoyer (2004) in collecting customer data and conducting analysis. Reinartz et al. (2004) empirically examined the impact on performance due to CRM process adoption have developed the CRM process constructs and dimensions. Meanwhile, Chang et al.

(2014) analyzed the effect of comprehensive CRM relational information processes on customer- and profit- related performance. The study finds a positive correlation in the relationship. Meanwhile, Campbell (2003) proposed a conceptual framework for internal processes involving creation of good customer knowledge; where it allows the strategic management of CRM programs. This framework is based upon case study of 5 Canadian financial services' organizations that adopted customer relationship programs.

Tseng (2009) discusses the manner of enhancing enterprise competitiveness. Nowadays, most organizations seem to have overinvested in collecting information about their customers and to under invest in the application. Organizations have been obtaining free information on their clients for a long time as a result of their dealings with them. To comprehend and fulfill their clients' requirements, organizations need to be more critical in using the data gathered, and concentrate on what is important. They must develop skills in utilizing the data for creating customer value. Lastly, in ensuring continuous information accessibility, they need good customer relationship management.

2.1.2 COMPETITOR INFORMATION ANALYSIS

Competitor information analysis has long been performed by organizations during the stages of implementing, developing, planning, executing, and controlling (Langfield-Smith, 1997). For organizations to be able to analyze their strengths and weaknesses against their competitors, it is highly critical that the competitors are understood (David and Carolina, 2014). Organizations are able to observe their strategic development against their competitors by including competitor analysis into their SMA. When an organization achieves superiority in relation to its main competitors in certain aspects, they attain competitive advantage. Simmonds (1981) posits that a company's superiority as compared to its competitors is competitive advantage.

Competitors are beneficial for companies as sources of best practices and benchmarking. The knowledge on rival firms is one of vital abilities of an organization. Accurate, significant, and timely competitor surveillance determine an organization's capability in responding to international rivalry. The competitor knowledge competence refers to the skill of acquiring, interpreting, and integrating information of the global competitive environment. Managers must

remain vigilant in identifying opportunities and threats in the marketplace and, also, they must completely understand their competitors. Peng and Liang (2016) produced a general framework to identify competitors, and used the similarities of capabilities and markets between the competitors and the local firm. This factor is expected to positively affect organizational performance (Kohli and Jaworski 1990).

Tseng (2009) examines the correlation of knowledge on rivals and knowledge chain. Competitor analysis provides advantages in analyzing rivalry; it is defined as an intelligent knowledge, like the extent of threat, facilities for production, and techniques, rivals' size and quantity, strategies in marketing, capabilities in research and development, and others. Based on respondent feedback, it is discovered that rivals have a huge impact on the strategic planning of organizations. Therefore, it is necessary for a business to collect information continuously about its rivals to acquire beneficial knowledge. In order to confirm their strategies are able to exploit competitor weaknesses and escape overlapping competitive advantages, enterprises should observe competitor's actions. Moreover, in order to develop the right counter strategies for enterprises, understanding the existing and potential strengths, weaknesses, abilities, and strategies of its competitors have a key role. This study considers competitor information analysis as a resource under the umbrella of SMA.

2.1.3 PRODUCT INFORMATION ANALYSIS

Healthcare is considered as a human-service organization where its main function is providing diagnostic and therapeutic medical services that are in nature. Healthcare products are a certain group of services given to a patient individually. Chase and Aquilano (1989) have interpreted the product as "the output from a productive system offered for sale (in the case of a business) or otherwise made available (in the case of a governmental or philanthropic organization) to some consumer." From this perspective, healthcare facilities provide their patients with certain goods and services. These encompass items such as X-rays, medicines and laboratory investigations requested by doctors which are parts of the treatment procedure, as well as nursing, operation rooms and certain services of hotel and social facilities. In view that the actual hospital service is treating patients, however, this is the only intermediate output. The final outputs of hospitals consist of multiple goods and services.

These pose a challenge in getting product information in a healthcare setting.

The competition concentrates on the strategic services and product characteristics. Those characteristics include rapid supply response to customer demands, good after-sales services, operating performance, inexpensive, highly reliable and good quality, product finish (Noordin et al., 2009). Noordin et al. (2009) conclude that an increased number of alternatives are available in the market due to the escalating number of organizations in the industry, where price, standards, and practicality are the main success factors.

Since today's customers are demanding, sophisticated, and disloyal, to sustain their prevailing market share or attract new customers, businesses have to concentrate on the market of their products (Noordin et al., 2009). For example, the business needs to consider the costs to internal and external elements in relation to failure, costs in assuring standards, as well as costs over the product lifecycle, where these are vital for businesses in observing their prevailing production performance. This information assists in the triggering of early warning should any problems occur in the manufacturing process. Accordingly, a remedy should be prepared before any further problems arise.

Product information is a vital factor that assists in developing competitive strategies where this will change and increase a product's value (Iyer and Soberman, 2000). Parlikad and McFarlane (2007) proposed that quantitative appraisal on the effect of availability of product data on product recovery decisions' performance is required. The study presented a modeling method in examining the effects of product data on decisions related to product recovery. They show qualitatively how the presence of product data positively affects product recovery decisions. They also illustrate the importance of technologies of automated identification in furnishing the desired data.

2.2 PERFORMANCE

Recently, the performance of healthcare organizations has received much attention as a research subject in operation management (Boyer, Gardner, and Schweikhart, 2012; Dobrzykowski et al., 2010; Stock and McFadden 2017). Hospitals are particularly facing significant demand to strengthen their performance indicators despite the increasing medical cost and pressure from third-party payers and patients (Stock and

McFadden 2017). Performance result is important as patients' needs have increased over time in all sectors due to intensified competition and technology advancement (Hong et al., 2014). Hospital operations are defining the performance where this includes better safety for patients, quality of process, and satisfaction (Stock and McFadden, 2017). Lachmann et al. (2013) have examined financial performance indicators such as return on investment, efficient costing and medical programs' standing, and care quality of non-financials.

Since the 1980s concerns have emerged about the quality of healthcare, i.e. its value (Boyer et al., 2012). Various efforts have been made by medical staff, researchers, government and advocates in measuring, tracking and improving the quality and safety of healthcare (Leape et al., 2009; Pronovost et al., 2006; Wachter, 2010). Despite the significant improvement, gaps and disappointments still exist (Pronovost et al., 2006). Dobrzykowski, Tran, and Tarafdar (2016) have emphasized on the focus of hospitals' performance and improvement in both the public and private hospital services.

In guiding the decision-makers in formulating appropriate policies, it is vital to have the evidence on the public and private health sector performance (Basu et al., 2012). The Malaysian Ministry of Health (MOH), which sponsors health care in Malaysia, has identified the vision and mission of the public health sector, where profitability has not been within the attention of decision makers in the ministry. The mission of the MOH is to build partnership for healthcare to facilitate and support the people to; (1) achieve full health potential; (2) encourage the appreciation of health as golden asset, and (3) take positive steps need to be taken in improving and sustaining good health for better life quality. This contradicts the private sector where profit is the main concern. The private sector is facing obstacles such as increasing cost, volatile prices, increasing demand by patients, advancement in technology, new rivals, and diversifed healthcare services, which all result in stiff market competition that call for the right strategies for superior performance (Sinnadurai and Fong 2015).

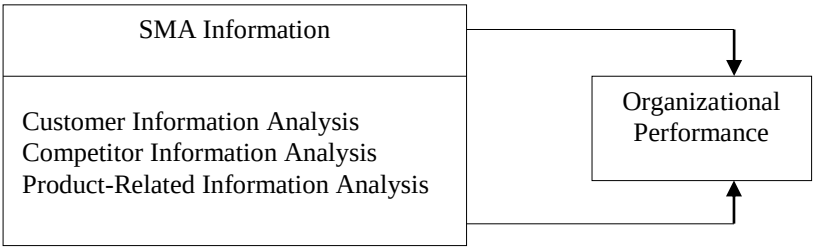
Firm performance can be measured either by objective data or subjective data. This study evaluated hospitals performance by subjective data using a self-rating approach to assess performance against competitors (Chenhall and Langfield-smith, 1998; Lachmann et al., 2013). The measurement for organizational performance usually encompasses two aspects, financial and non-financial (Chenhall and Langfield-Smith, 2007). Jusoh and Parnell (2008) argued that a combination of non-financial measures with financial measures

provides better indicators to judge the organizational processes and outcomes. In the current study, performance comprises of a list of financial and nonfinancial indicators that provide the degree of the achievement of hospitals' results and goals, measured according to Lachmann et al. (2013). Their study adopted measurements from previous studies including Abernathy and Lillis (2001), Abernethy and Brownell (1999), Cadez and Guilding (2008; 2012), and Hoque and James (2000).

3. RESEARCH FRAMEWORK

Noordin et al. (2015) discuss the role of the SMA information elements in enhancing performance. SMA is further conceptualized as strategic information required to sustain competitiveness. Based on the literature review, SMA is conceptualized as strategic information regarding customers, competitors, and products required to add value and enhance performance of the organization. It has been posited by Mohd Yusof et al. (2012) that organizations that acknowledge SMA's importance will be able to observe the products and services of their rivals, their clients' requirements and how these requirements are being fulfilled. Figure 1 illustrates the study's research framework. One main hypothesis with three sub-hypotheses is developed for this study.

FIGURE 1
Research Framework



Studies on management accounting have discussed the effect of information on organizational performance. A number of studies have examined the correlation between accounting data and organizational performance (Bromwich, 1990; Cadez and Guilding, 2008; Carr, Kolehmainen, and Mitchell, 2010; Hammad and Jusoh 2010; Homes and Nicholls, 1989; Noordin et al., 2009; Zakaria, 2015). In the SMA

scale, Noordin et al. (2015) discuss the effect of SMA information elements on firm performance in the Malaysian manufacturing sector with a focus on electronic and electrical companies. It is found that SMA elements have a significant positive impact and play an important role. Zakaria (2015) who analyzed the utilization of SMA information by small and medium enterprises (SMEs) in Malaysia and the effect on organizational performance showed a correlation between SME performance and strategic management accounting information. Hence, the following hypothesis:

H1: There is a positive relationship between SMA information and performance.

The use of SMA information is expected to affect organizational performance (Noordin et al., 2015). In terms of information, companies should focus on customer integration (Chavez et al., 2015; Frambach, Fiss, and Ingenbleek, 2016). Porter (1990) and Feng et al. (2016) stressed that the essence of success is that organizations must satisfy customers. In achieving organizational goals, management accounting information in large enterprises provides the customers' orientation (Bromwich, 1992). Customer information is important to organizations as well as to managers in developing the level of customer knowledge to achieve their goals (Campbell, 2003). Thus, it is clear that customer information has high importance for organizations in goal attainment. Therefore hypothesis H1a is developed as follows:

H1a: There is a positive relationship between customer information analysis and performance.

Competitor analysis is important for developing and implementing organizational performance (Caber, Albayrak, and İsmayıllı, 2017; Frambach et al., 2016; Turner et al., 2017). It is important for an organization to understand its competitors (Ghoshal and Westney, 1991), and specify its strengths and weaknesses according to its competitors (David and Carolina, 2014). The capability to observe the development of rivals' strategies has resulted in businesses conducting competitor evaluation in their management accounting system analysis (Noordin et al., 2014). Simmonds (1981) emphasized that the superiority of an organization as compared with its rivals is competitive advantage. Noordin et al. (2014) found that the analysis of

competitor information helps the organization to raise its performance level and competitiveness. Hence, the following hypothesis:

H1b: There is a positive relationship between competitor information analysis and performance.

Nowadays, the focus of competition is on the attributes of strategic products and services, such as inexpensive, good operating performance, reliable and good quality, rapid supply response to customer demands, product finish, and good after-sales service (Bromwich, 1992; Bustinza et al., 2019; Chatterji et al., 2016). Noordin et al. (2015) posit that because modern consumers are refined, unfaithful, and difficult, businesses are pressured into focusing on the products' market to sustain their prevailing market share or entice new clients. Information related to product is a vital resource in view that it assists growth; additionally, the information is employed to change and increase product value (Iyer and Soberman 2000). Therefore, hypothesis H1c is developed as follows:

H1c: There is a positive relationship between product-related information analysis and performance.

4. RESEARCH METHODOLOGY

The objectives of this study are to ascertain the usage level of SMA information in Malaysian hospitals, and identify the link between SMA information and organizational performance. The respondents in this study are the chief financial officers (CFOs), following a study by Lachmann et al. (2013) who measured SMA in German hospitals using survey questionnaires in which the respondents were members of the financial or accounting departments. To gather the study's data, e-mails and printed self-administered questionnaires have been used. Questionnaires were delivered by hand to the hospitals together with a cover letter to explain the purpose of study.

The websites of the Association of Private Hospitals of Malaysia (APHM) and the Takaful Malaysia Insurance Company were used to obtain the information for the sample. For this study, 179 questionnaires had been distributed. Five hospitals were omitted due to incomplete information. The geographical distribution of private hospitals in Malaysia is shown in Table 1.

TABLE 1
The Distribution of Private Hospitals in Malaysia

Area	State	Frequency	Percentage	Cumulative Percentage
Central	Kuala Lumpur, Putrajaya & Selangor	86	46.7	46.70
North	Penang, Perak, Perlis & Kedah	36	19.6	66.30
South	Johor, Melaka & N. Sembilan	27	14.7	81.00
East Coast	Kelantan, Pahang & Terengganu	15	8.1	89.10
East M'sia	Sabah & Sarawak	20	10.9	100.00
		184	100	

4.1 MEASUREMENTS OF VARIABLES

The work of Guilding et al. (2000) presented the basis for measuring SMA. They presented SMA information using twelve filtered practices as the SMA surrogate. Consistent with Noordin et al. (2009), this study had modified the SMA information which consists of analyses on the information of customers, competitors, and products. Noordin et al. (2009) conducted their research in the Electrical and Electronic industry. In the absence of other measurement for SMA information specifically for the service industry, the questionnaire items had been modified to reflect the service environment.

The current study utilizes the self-rating method in examining an organization's performance relative to its rivals (Chenhall, and Langfield-smith, 1998; Lachmann et al., 2013). Meanwhile, Jusoh and Parnell (2008) propose that to attain better results in examining an organization's process and outcome, both financial and non-financial measures have to be employed. The performance of healthcare facilities is measured according to Lachmann et al. (2013) who adopted measurements from previous studies (Abernethy, and Brownell, 1999;

Abernathy, and Lillis, 2001; Cadez and Guilding, 2008, 2012; Hoque and James, 2000) and modified them to four items: Return on investment; Efficient costing; Medical program standing; and Care quality. Table 2 provides a summary of the measurements used in this study as well as the scales and sources of these measurements.

TABLE 2
Summary of Measurements

Variable	Dimension	Item	Scale	Source
SMA information	Customer information	6	Five-point scale: 1 = Not used at all 5 = Greatly used	(Guilding et al. 2000; Noordin et al. 2009)
	Competitor information	10		
	Product related information	10		
Performance	-	4	Five-point scale: 1 = Strongly below average 5 = Strongly above average	(Lachmann et al. 2013)

5. DATA ANALYSIS

This section reviews the demographic information of the Malaysian private hospitals and respondents in this study, presents descriptive analysis on SMA information usage, and hypothesis testing on the link of SMA information and organizational performance.

5.1 RESPONSE RATE

The response rate for this study is 53%, with a total of 95 responses received from 179 distributed questionnaires. Table 3 describes the response rate based on area and method of questionnaires distribution.

TABLE 3
Response Rate

Area	No. of Hospitals	Questionnaire distribution	Distributed		Respond		Response rate
			Self-Administration	e-mail	Self-Administration	e-mail	
Central	86	86	86	0	50	0	0.58
North	36	36	33	3	21	0	0.58
South	27	25	17	8	13	0	0.52
East Coast	15	15	13	2	8	0	0.53
East Malaysia	20	17	5	12	3	0	0.18
Total	184	179	154	25	95	0	0.53

5.2 DEMOGRAPHIC ANALYSIS

Table 4 presents the demographic information of the hospitals that participated in this study. According to the definition for service organizations by the SME Corporation Malaysia, the hospitals' size is dependent upon the number of equivalent full-time employees, i.e. large (52.6%), medium (33.7%), or small (13.7%). Size can also be classified based on sales turnover as medium (54.7%), large (24.2%), or small (21.1%). Table 4 also shows that the majority (52.6%) of the organizations are from Central Malaysia (Kuala Lumpur, Putrajaya, and Selangor), followed by North (22.1%) and South (13.7%).

TABLE 4
Profile of Hospitals

No.	Demographic Variable	Frequency	%
	The age of your organization is:		
	Less than 5 years	3	3.2
1	5-10 years	14	14.7
	11-15 years	36	37.9
	more than 15 years	42	44.2

TABLE 4 (*continued)*

No.	Demographic Variable		Frequency	%
2	Annual income:			
	Less than RM 300,000		0	0
	From RM 300,000 to 3 mil		20	21.1
	From RM 3 mil to 20 mil		52	54.7
	More than RM 20 mil		23	24.2
3	Number of the equivalent full-time employees:			
	Less than 5		0	0
	From 5 to 30		13	13.7
	From 31 to 75		32	33.7
	More than 75		50	52.6
4	Location	States		
	Central	Kuala Lumpur, Putrajaya, and Selangor	50	52.6
	North	Penang, Perak, Perlis, and Kedah	21	22.1
	South	Johor, Melaka, and Negeri Sembilan	13	13.7
	East coast	Kelantan, Pahang, and Terengganu	8	8.4
	East Malaysia	Sabah and Sarawak	3	3.2

5.3 DESCRIPTIVE ANALYSIS FOR SMA INFORMATION

Descriptive statistics are used to determine SMA usage among the private hospitals in Malaysia. The descriptive statistics of SMA information's three dimensions are presented in Table 5. The mean score for Customer Information Analysis (CUIA) ranges from 3.09 to 3.67, and the mean group is 3.36. The group means scores for Competitor Information Analysis (COIA) and Product Related Information Analysis (PRIA) are 3.55 and 3.63, respectively. The mean score for COIA ranges between 2.89 and 3.99, while for PRIA the score is between 3.43 and 3.86. Based on the mean score, it can be said that SMA information is somewhat being moderately used by private hospitals in Malaysia. The *SD*, median, minimum, and maximum values for all items are in acceptable range.

TABLE 5
Descriptive Statistics of SMA Information Elements (n = 95)

	Customer Information Analysis	Mean	*SD*	Mdn	Range
CUIA_Q1	Customer warranty claims	3.09	1.13	3	1-5
CUIA_Q2	Customer profitability analysis	3.20	1.04	3	1-5
CUIA_Q3	Forecast on revenue streams	3.38	1.01	3	1-5
CUIA_Q4	Forecast on cost of servicing	3.58	0.89	4	1-5
CUIA_Q5	Forecast on customer future profits	3.23	1.03	3	1-5
CUIA_Q6	Forecast on profit earned from customer	3.67	0.99	4	1-5
	Mean group	3.36			
	Competitor Information Analysis	**Mean**	***SD***	**Mdn**	**Range**
COIA_Q1	Estimation of competitor's pricing	3.99	0.76	4	2-5
COIA_Q2	Estimation of competitor's market share	3.64	0.73	4	2-5
COIA_Q3	Appraisal of competitor's quality program	3.81	0.93	4	1-5
COIA_Q4	Appraisal of competitor's growth rates	3.97	0.79	4	2-4
COIA_Q5	Estimation of competitor's sales trend	3.57	0.83	4	2-5
COIA_Q6	Estimation of competitor's costs structure	3.51	0.89	4	1-5
COIA_Q7	Estimation of competitor's profitability	3.47	0.92	4	1-5
COIA_Q8	Appraisal of competitor's R&D investment	2.89	1.24	3	1-5
COIA_Q9	Appraisal of competitor's techniques investment	3.23	0.95	3	1-5
COIA_Q10	Appraisal of competitor's cost reduction	3.43	0.86	4	1-5
	Mean group	3.55			

TABLE 5 (*continued)*

	Product Related Information Analysis	Mean	*SD*	Mdn	Range
PRIA_Q1	Cost management during R&D	3.52	1.01	4	1-5
PRIA_Q2	Internal failure-related costs	3.43	0.99	4	1-5
PRIA_Q3	External failure-related costs	3.45	1.04	4	1-5
PRIA_Q4	Quality assurance related costs	3.86	0.82	4	2-5
PRIA_Q5	Appraisal of product attributes	3.67	0.90	4	1-5
PRIA_Q6	Prevention costs	3.63	0.80	4	2-5
PRIA_Q7	Appraisal of cost across product life-cycle	3.64	0.89	4	1-5
PRIA_Q8	Value creating activity	3.73	0.84	4	2-5
PRIA_Q9	Product positioning related costs	3.66	0.87	4	1-5
PRIA_Q10	Market penetration related costs	3.68	0.95	4	1-5
	Mean group	3.63			

5.4 HYPOTHESIS TESTING

In the model, the effects of SMA information, including CUIA, COIA, and PRIA, are evaluated against performance. Based on the analysis and estimation done over the structural model, explanations and standard values of the path coefficients, *t*-values, and *p*-values are presented in the subsequent paragraphs.

The extent and magnitude of the link of independent and dependent variables are explained by path coefficient (Ko et al. 2005). Since correlation allows the identification of path coefficient, it is standardized. Meanwhile, the coefficient of path regression is not considered as standardized. The path coefficient value has to be in the range of 1 to -1 (Hair et al., 2014). Hence, in view that all hypotheses are positive, path coefficient's value is considered to be in the range of 0 to 1 by this study. The *t*-value is employed to examine the significance of every path coefficient. A *t*-value exceeding two (*t*-value >2) is accepted, where this signifies significance level (Hair et al., 2014). In conducting hypothesis testing, *t*-value through bootstrapping procedure will determine path significance (Low et al., 2017). In testing a hypothesis, *p*-value is the quantitative evaluation of numerical significance. Moreover, based on past studies, *p*-value less than 0.05

signifies the related hypothesis's significance (Hair et al., 2014; Ifinedo, 2011).

Table 6 presents the results of bootstrapping procedure for *p*-values and *t*-values. Based on the *p*-value (< 0.05), all the relationships in the structural model are significant. Based on the model, the independent variables' coefficients are positive and significant; implying that better SMA information results in greater performance.

TABLE 6
Test of the Total Effects Using Bootstrapping

Path	coefficient (β)	*t*-value	*p*-value
SMA ---------> Performance	0.587	9.909	0.000
CUIA ---------> Performance	0.165	2.016	0.044
COIA ---------> Performance	0.226	3.314	0.001
PRIA ---------> Performance	0.354	4.222	0.000

Notes: CUIA (Customer Information Analysis); COIA (Competitor Information Analysis); PRIA (Product Related Information Analysis)

6. FINDINGS AND DISCUSSION

6.1 STRATEGIC MANAGEMENT ACCOUNTING INFORMATION PRACTICES

Previous research on SMA concentrated on techniques and the adoption of these techniques in several sectors rather than SMA information (Abdullah, and Saidb, 2016; Cinquini, and Tenucci, 2010; Egbunike et al., 2014; Kiew Heong Angeline et al., 2013; Turner et al., 2017). To date, empirical evidence on SMA information has been limited. To bridge this gap, this study examines the development of SMA information where the focus is on private hospitals in Malaysia. In this study, SMA information is conceptualized as management accounting information's provision.

Most of the SMA information elements have a high usage level. For all items, their mean score values exceed the midpoint of the five-point Likert scale, where they ranged from 2.89 to 3.99. This is inconsistent with results of past research, implying that SMA information is not widely used (e.g. Cadez, 2006; Guilding, and McManus, 2002; Guilding et al., 2000). Current study finds that organizations (specifically hospitals), have begun appreciating the

significance of SMA information elements, primarily used for controlling competition in the market, for their strategic goals.

Within this study's framework, the findings show that SMA information elements are being employed by private hospitals. This illustrates that nowadays, hospitals stressed on usage of strategic information in the competitive business environment. This aligns with the proposal that SMA information is being used by organizations in managing their competition (Auzair et al., 2013; Cravens, and Guilding, 2001; Guilding, and McManus, 2002; Guilding et al., 2000; Langfield-Smith, 2008; Noordin et al., 2009, 2015). There is stiff competition in the Malaysian healthcare sector. This intensity in competition is partly due to the openness level of competition from abroad in attracting overseas patients and the support to local economy (Kariuki, and Kamau, 2016; Turner et al., 2017). Therefore, a broad utilization of SMA information can be expected.

This study adds to the current literature on the content and effects of SMA information (Abdullah, and Saidb, 2016; Cinquini, and Tenucci, 2010; Egbunike et al., 2014; Kiew Heong Angeline et al., 2013; Turner et al., 2017), and the utilization of SMA practices, or conventional management accounting (Kocher, 2007; Lachmann et al., 2013; Pizzini, 2006), by presenting a wide outlook on the practices of SMA information applied by hospitals. Since this study focuses on SMA information and its application in hospitals, the main findings are distinguished from other research.

The descriptive analysis from this research as presented in TABLE 5 suggests that documented SMA information is used by most of the hospitals surveyed and that it helps in arriving at better strategic decisions (Wilde et al., 2017). Considering that most hospitals recognize the significance of their strategic standing in the market, it can be seen that SMA information is being commonly applied and conveyed by the staff. There is a mixed result concerning the extent of utilization of SMA information elements; where this situation is also found in information elements previously considered handy such as the CUIA, COIA, and PRIA (Noordin et al., 2014).

CUIA has also been shown to be an important element of SMA information. This study found that Malaysian hospitals are extensively utilizing the information. This is similar with other studies' findings (Chang et al., 2014; Lachmann et al., 2013; Noordin et al., 2015) where huge businesses include or utilize management accounting information to achieve their customer-orientation goal. For the participating hospitals in this study, the importance of CUIA cannot be disputed. The

fast-changing technology and patient's preference, and quality of service, show the importance of knowing the customer. By examining profit estimation from customers, service cost estimation, and revenue streams hospitals can further emphasize or strengthen in their customer service.

For example, in regard to COIA, in assisting their managers to formulate and monitor their strategies, hospitals need certain information (Simmonds, 1981). Their concern with the hospital's competitiveness in providing services is the factor for future profitability and hospital's worth (Lachmann et al., 2013). The elements of SMA information such as gauging rivals' cost structure, prices, and R&D investments will definitely provide the hospitals with precious information for tracking their own competitiveness against their rivals. Moreover, past studies agreed that COIA is the most utilized component of SMA information (Cravens, and Guilding, 2001; Guilding et al., 2000; Noordin et al., 2015). David and Carolina (2014) reemphasized that understanding the significance of COIA will not only enable an organization to know the products and services that its rivals offered, but also how it can offer those services and products.

The results also show another SMA information's vital element, i.e. PRIA. Past studies (e.g. Noordin et al., 2015, 2009; Parlikad, and McFarlane, 2007) suggested that in view that customers nowadays are fussy, refined and unfaithful, businesses have to concentrate on their markets in maintaining or securing new clients. Our results emphasize the significance of where PRIA can be extensively used. For instance, the information related to value creating activity, quality assurance related costs, and market penetration related costs, are a few of those regarded as vital for continuous improvement in relation to hospital service quality and cost advantage.

6.2 STRATEGIC MANAGEMENT ACCOUNTING INFORMATION AND PERFORMANCE

The link between organizational performance and SMA information is supported by this study's findings. This study indicates a significant relationship (p 0.00) between SMA information and performance, thereby confirming the findings of previous studies (Alam et al., 2014; Cadez, and Guilding, 2008, 2012; Cravens, and Guilding, 2001; Homes, and Nicholls, 1989; Lachmann et al., 2013; Noordin et al., 2009; Zakaria 2015). One of the most cited results of SMA information usage is the effect on performance (Noordin et al., 2015; Zakaria 2015). This study followed Noordin et al. (2009) by categorizing the information elements

of SMA; therefore, this study investigated three elements of SMA information: CUIO, COIA, and PRIA. The study's results show that performance is positively being affected by all these elements. In view that the CUIO, COIA, and PRIA are assimilated by employees and exist in their perception, SMA information has become the factor in sustaining competitive advantage. Thus, analyzing this information can lead to significant performance.

This study confirmed the empirical evidence of past studies with regard to the impact on performance by SMA information. This illustrates that the greater the employment of SMA information, the better the performance. The underlying theoretical reason behind such relationship could be underpinned on the notion of SMA information function; long ago it had the role of facilitating, supporting, monitoring, and implementing control of different business strategies to ensure effectiveness (Noordin et al., 2015; Zakaria, 2015).

The study finds that organizational performance has a positive link with CUIA. In this context, the finding shows that companies consider customers as their strategic priority and, accordingly, focus on customer-control (Kaplan, and Norton, 2007). Moreover, organizations should pay more attention to their customers because this is considered the essence of success (Feng et al., 2016; Porter, 1990). The importance of CUIA is that it helps in developing the level of customer knowledge to achieve organizational goals (Campbell, 2003). Besides that, CUIA utilization enables organizations to distinctively serve customers by knowing them (Noordin et al., 2015). Thus, it is clear that CUIA has high importance for organizations in achieving their goals.

Organizational performance is significantly being affected by COIA and this is similar with most past research that examines the correlation between issues related to competition and performance (Chen, 2014; Chuang, Morgan, and Robson, 2015; David, and Carolina 2014; Foreman et al., 2014; Ghoshal, and Westney, 1991; Noordin et al., 2014, 2015; Yu et al., 2013). This study supports the result of previous studies concerning the important strategic role of competitor information (Chenhall and Langfield-smith, 1998; Noordin et al., 2015). Thus, it is vital for an organization to understand its competitors (Ghoshal and Westney, 1991), and evaluate its strengths and weaknesses against its competitors (David and Carolina, 2014). The findings of the present study indicate that competitor information analysis helps to raise performance and competitiveness in tough markets.

One of today's competitive focuses is strategic products (David and Carolina, 2014). PRIA is an important element of SMA information

as it allows the organization to match its performance. In assisting competitive strategic development, PRIA is a critical factor. Moreover, the information is employed to change and increase the value of products (Iyer and Soberman, 2000). Research has posited that businesses have to focus on products' markets in maintaining their current share or attracting new clients (Noordin et al., 2015). Consumers today are refined, unfaithful, and fussy (Wang, Batra, and Chen, 2016). Therefore, organizations should pay more attention when developing their products.

7. CONCLUSION

The study increases the knowledge in the usage level of SMA information elements in Malaysian hospitals. The results of this research show that SMA information is used and implemented; and the respondents consider it as a significant factor to add value for their organizations. This challenges the researchers to enhance the current SMA information. Agreement on what SMA information should consist of must be outlined to allow formulation of a reasonable framework. This study may be applied to other industries in explaining how SMA information impacts on performance. Theoretically, this study contributes to the literature in the SMA area by investigating SMA information, and performance in the healthcare sector. This study has extended the understanding of how SMA information is used among hospitals in Malaysia. The results of this study also have a practical contribution that shows that hospitals widely use competitor, customer, and product related information analysis to manage their competitive market.

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REFERENCES

Abdullah, Nik, Nik Herda, and Jamaliah Said. "Strategic Management Accounting Practices and Value Creation: Towards Good Governance and Accountability in Government Linked Companies." *Proceedings of the International Conference on Accounting Studies.* (2016): 107-14.

Abernethy, Margaret A., and Anne M. Lillis. "Interdependencies in

Organization Design: A Test in Hospitals." *Journal of Management Accounting Research* 13, no. 1 (2001): 107-29.

_____, and Peter Brownell. "The Role of Budgets in Organizations Facing Strategic Change: An Exploratory Study." *Accounting,*

AlMaryani, Majeed A. Hatif, and Hamza H. Sadik. "Strategic Management Accounting Techniques in Romanian Companies: Some Survey Evidence." *Procedia Economics and Finance* 3, no. 12 (2012): 387-96.

Auzair, Sofiah Md, Rozita Amiruddin, Ainun Abdul Majid, and Ruhanita Maelah. "Linking Business Strategy to Management Accounting: A Study in Malaysian Service Organizations." *Jurnal Pengurusan* 37 (2012): 45–52.

Basu, Sanjay, Jason Andrews, Sandeep Kishore, Rajesh Panjabi, and David Stuckler. "Comparative Performance of Private and Public Healthcare Systems in Low- And Middle-Income Countries: A Systematic Review." *PLoS Medicine* 9, no. 6 (2012): e1001244.

Boyer, Kenneth K., John W. Gardner, and Sharon Schweikhart. "Process Quality Improvement: An Examination of General Vs. Outcome-Specific Climate and Practices in Hospitals." *Journal of Operations Management* 30, no. 4 (2012): 325-39.

Bromwich, Michael. *Financial Reporting, Information and Capital Markets*. London: Pitman Publishing, 1992.

_____. The Case for Strategic Management Accounting: The Role of Accounting Information for Strategy in Competitive Markets. *Accounting, Organizations and Society* 15, no. 1–2 (1990): 27-46.

Bustinza, Oscar F., Emanuel Gomes, Ferran Vendrell-Herrero, and Tim Baines. "Product-Service Innovation and Performance: The Role of Collaborative Partnerships and R&D Intensity." *R&D Management* 49, no. 1 (2019): 33-45.

Caber, Meltem, Tahir Albayrak, and Türkan İsmayıllı. "Analysis of Congress Destinations Competitiveness Using Importance Performance Competitor Analysis." *Journal of Convention and Event Tourism* 18, no. 2 (2017):100-17.

Cadez, Simon. "The Application of Strategic Management Accounting Techniques in Slovenian Manufacturing Companies. Zagreb International." *Review of Economics and Business* 9, no. 1 (2006): 61–75.

_____. and Chris Guilding. "An Exploratory Investigation of an Integrated Contingency Model of Strategic Management Accounting." *Accounting, Organizations and Society* 33, no. 7–8 (2008): 836–63.

_____. "Strategy, Strategic Management Accounting and Performance: A Configurational Analysis." *Industrial Management and Data Systems* 112, no. 3 (2012): 484-501.

Campbell, Alexandra J. "Creating Customer Knowledge Competence: Managing Customer Relationship Management Programs Strategically." *Industrial Marketing Management* 32, no. 5 (2003): 375-83.

Carr, Chris, Katja Kolehmainen, and Falconer Mitchell. "Strategic Investment Decision Making Practices: A Contextual Approach." *Management Accounting Research* 21, no. 3 (2010): 167–84.

Chang, Hsin Hsin, Kit Hong Wong, and Po Wen Fang. "The Effects of Customer Relationship Management Relational Information Processes on Customer-Based Performance." *Decision Support Systems* 66 (2014): 146-59.

Chase, R.B. and Aquilano, N.J. *Production and Operations Management: A Life Cycle Approach*. 5th Edition. London: McGraw Hill, 1989.

Cusumano, Michael A., Steven J. Kahl, and Fernando F. Suarez. "Services, Industry Evolution, and The Competitive Strategies of Product Firms." *Strategic Management Journal* 37, no. 1 (2016): 116-32.

Chavez, Roberto, Wantao Yu, Cristina Gimenez, Brian Fynes, and Frank Wiengarten. "Customer Integration and Operational Performance: The Mediating Role of Information Quality." *Decision Support Systems* 80 (2015): 83–95.

Chen, Kuan-Yu. "Improving Importance-Performance Analysis: The Role of the Zone of Tolerance and Competitor Performance. The Case of Taiwan's Hot Spring Hotels." *Tourism Management* 40 (2014): 206-72.

Chenhall, Robert H., and Kim Langfield-Smith. "The Relationship between Strategic Priorities, Management Techniques and Management Accounting: An Empirical Investigation Using a Systems Approach." *Accounting, Organizations and Society* 23, no. 3 (1998): 243-64.

_____. and K. Langfield-Smith. "Multiple Perspectives of Performance Measures." *European Management Journal* 25, no. 4 (2007): 266-82.

Chuang, Fu Mei, Robert E. Morgan, and Matthew J. Robson. "Customer and Competitor Insights, New Product Development Competence, and New Product Creativity: Differential, Integrative, and Substitution Effects." *Journal of Product Innovation Management* 32, no. 2 (2015): 175-82.

Cinquini, Lino, and Andrea Tenucci. Is the Adoption of Strategic Management Accounting Techniques Really "Strategy-Driven?" Evidence from a Survey. MPRA Munich, 2007.

_____. "Strategic Management Accounting and Business Strategy: A Loose Coupling?" *Journal of Accounting and Organizational Chang*e 6 (2010): 228-59.

Cravens, Karen S., and Chris Guilding. "An Empirical Study of the Application of Strategic Management Accounting Techniques." *Management Accounting* 10 (2001): 95–124.

David, F. and S. Carolina. "Strategic Management Concepts and Cases." *Zeitschrift für Personalforschung* 28, no. 3 (2014): 367-90.

Dobrzykowski, David D., Kathleen L. McFadden, and Mark A. Vonderembse. "Examining Pathways to Safety and Financial Performance in Hospitals: A Study of Lean in Professional Service Operations." *Journal of Operations Management* 42 (2016): 39–51.

_____, Oanh Tran, and Monideepa Tarafdar. "Value Co-Creation and Resource Based Perspectives for Strategic Sourcing." *Strategic Outsourcing: An International Journal* 3, no. 2 (2010): 106-27.

Egbunike, Francis Chinedu, Okenwa Cy Ogbodo, And Chidiebele Innocent Onyali. "Utilizing Strategic Management Accounting Techniques (SMATs) for Sustainability Performance Measurement." *Research Journal of Finance and Accounting* 5, no. 13 (2014): 140-54.

Feng, Taiwen, Di Cai, Zhenglin Zhang, and Bing Liu. "Customer Involvement and New Product Performance: The Jointly Moderating Effects of Technological and Market Newness." *Industrial Management and Data Systems* 116, no. 8 (2016): 1700-18.

Foreman, Jeff, Naveen Donthu, Steve Henson, and Amit Poddar. "The Performance Implications of Planning, Implementation, and Evolution of Firms' Customer and Competitor Orientations." *Journal of Marketing* 22, no. 4 (2014): 349-66.

Frambach, Ruud T., Peer C. Fiss, and Paul TM Ingenbleek. "How Important Is Customer Orientation for Firm Performance? A Fuzzy Set Analysis of Orientations, Strategies, And Environments." *Journal of Business Research* 69 no. 4 (2016): 1428-36.

Mohd Yusof, Nor Azrina, Wee Shu Hui, Ibrahim Kamal Abdul Rahman, and Normah Omar. "Style of Information Usage and Use of Accounting Information: A Malaysian Study." *Asian Review of*

Accounting 20, no. 1 (2012): 20–33.

Ghoshal, Sumantra, and D. Eleanor Westney. "Organizing Competitor Analysis Systems." *Strategic Management Journal* 12, no. 1 (1991): 17-31.

Guilding, Chris, and Lisa McManus. "The Incidence, Perceived Merit and Antecedents of Customer Accounting: An Exploratory Note." *Accounting, Organizations and Society* 27, no. 1–2 (2002): 45-59.

_____, Karen S. Cravens, and Mike Tayles. "An International Comparison of Strategic Management Accounting Practices." *Management Accounting Research* 11, no. 1 (2000): 113-35.

Hair, J., T. Hult, C. Ringle, and M. Sarstedt. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications, 2014.

Hair, Joseph F., G. Tomas M. Hult, Christian M. Ringle, Marko Sarstedt, and Kai Oliver Thiele. "Mirror, Mirror on the Wall: A Comparative Evaluation of Composite-Based Structural Equation Modeling Methods." *Journal of the Academy of Marketing Science* 45, no. 5 (2017): 616-32.

Hammad, Salah A., Ruzita Jusoh, and Elaine Yen Nee Oon. "Management Accounting System for Hospitals: A Research Framework." *Industrial Management and Data Systems* 110, no. 5 (2010): 762-84.

Homes, S. and Nicholls, D. "Modelling the Accounting Information Requirements of Small Businesses." *Accounting and Business Research* 19, no.74 (1989): 143-50.

Hong, P., M. Yang, and D. Dobrzykowski. "Strategic Customer Service Orientation, Lean Manufacturing Practices and Performance Outcomes." *Journal of Service* 25, no. 5 (2014): 699-723.

Hoque, Z. and W. James. "Linking Balanced Scorecard Measures to Size and Market Factors: Impact on Organizational Performance." *Journal of Management Accounting Research* 12, no. 1 (2000): 1-17.

Hussein, Bahaa Aldeen, Ruhanita Maelah, and Amizawati Mohd Amir. "Strategic Management Accounting Information, Cost Management Knowledge and Performance of Healthcare Organizations: A Research Framework." Paper presented at the *International Management and Accounting Conference,* 2016.

Ifinedo, Princely. "An Empirical Analysis of Factors Influencing Internet/E-Business Technologies Adoption by SMEs in Canada." *International Journal of Information Technology* 10, no. 4 (2011): 731-66.

Iyer, Ganesh, and David Soberman. "Markets for Product Modification

Information." *Marketing Science* 19, no. 3 (2000): 203-25.

Jusoh, Ruzita, and John A. Parnell. "Competitive Strategy and Performance Measurement in the Malaysian Context: An Exploratory Study." *Management Decision* 46, no. 1 (2008): 5-31.

Kaplan, Robert S., and David P. Norton. "Transforming the Balanced Scorecard from Performance Measurement to Strategic Management: Part II." *Accounting Horizons* 15, no. 2 (2001): 147-60.

_____. "Using the Balanced Scorecard as a Strategic Management System." *Harvard Business Review* 85, no. 7–8 (2007): 1-13.

Kariuki, Samuel N., and Charles Guandaru Kamau. "Organizational Contingencies Influencing the Adoption of Strategic Management Accounting Practices Among Manufacturing Firms in Kenya." *International Journal of Advanced Research in Management and Social Sciences* 5, no. 4 (2016): 167-82.

Ko, Dong-Gil, Laurie J. Kirsch, and William R. King. "Antecedents of Knowledge Transfer from Consultants to Clients in Enterprise System Implementations." *MIS Quarterly* 29, no. 1 (2005): 59-85.

Heong, Angeline Yap Kiew, Lee Teck Heang, Jamaliah Said, and Yap Saw Teng. "Adoption, Benefits and Challenges of Strategic Management Accounting Practices: Evidence from Emerging Market." *Asia Pacific Management Accounting Journal* 8, no. 2 (2013): 27-45.

Kocher, Claudia. "Hospital Capital Budgeting Practices and Their Relation to Key Hospital Characteristics: A Survey of US Manager Practices." *Journal of Global Business Issues* 1, no. 2 (2007): 21-9.

Kohli, Ajay K., and Bernard J. Jaworski. "Market Orientation: The Construct, Research Propositions, and Managerial Implications." *The Journal of Marketing* 54, no. 2 (1990): 1-18.

Lachmann, Maik, Thorsten Knauer, and Rouven Trapp. "Strategic Management Accounting Practices in Hospitals: Empirical Evidence On Their Dissemination Under Competitive Market Environments." *Journal of Accounting and Organizational Change* 9, no.3 (2013): 336-69.

Langfield-Smith, K. "Management Control Systems and Strategy: A Critical Review." *Accounting, Organizations and Society* 22, no. 2 (1997): 207-32.

Langfield-Smith, K.. "Strategic Management Accounting: How Far

Have We Come in 25 years?" *Accounting, Auditing & Accountability Journal* 21, July (2008): 204-28.

Leape, L., D. Berwick, C. Clancy, J. Conway, P. Gluck, James Guest, and David Lawrence. "Transforming Healthcare: A Safety Imperative." *Quality and Safety in Health Care* 18, no. 6 (2009): 424-8.

Low, Mei Peng, Seng Fook Ong, and Pei Meng Tan. "Would Internal Corporate Social Responsibility Make a Difference in Professional Service Industry Employees' Turnover Intention? A Two- Stage Approach Using PLS -SEM." *Global Business and Management Research* 9, no. 1 (2017): 24-41.

Naranjo-Gil, David, and Frank Hartmann. "How Top Management Teams Use Management Accounting Systems to Implement Strategy." *Journal of Management Accounting Research* 18, no. 1 (2006): 21-53.

Noordin, Raman, Yuserrie Zainuddin, and Michael Tayles. "Strategic Management Accounting Information Elements: Malaysian Evidence." *Asia-Pacific Management Accounting Journal* 4, no. 1 (2009): 17-34.

_____, Yuserrie Zainuddin, Fuad Mail, and Rasid Mail. "Strategic Management Accounting: State-of-the-Art." *Malaysian Journal of Business and Economics* 1, no. 1 (2014): 47-71.

_____, Yuserrie Zainuddin, Rasid Mail, and Noor Kaziemah Sariman. "Performance Outcomes of Strategic Management Accounting Information Usage in Malaysia: Insights from Electrical and Electronics Companies." *Procedia Economics and Finance* 31, no. 15 (2015): 13-25.

Parlikad, Ajith Kumar, and Duncan McFarlane. "RFID-Based Product Information in End-Of-Life Decision Making." *Control Engineering Practice* 15, no. 11 (2007): 1348-63.

Paquette, S. "Customer Knowledge Management." In *Encyclopedia of Knowledge Management,* edited David Schwartz and Dov Te'eni, 175-84. 2011.

Peng, David Xiaosong, and Fujun Lai. "Using Partial Least Squares in Operations Management Research: A Practical Guideline and Summary of Past Research." *Journal of Operations Management* 30, no. 6 (2012): 467-80.

Peng, Yu-Shu, and I-Chung Liang. "A Dynamic Framework for Competitor Identification: A Neglecting Role of Dominant Design." *Journal of Business Research* 69, no. 5 (2016): 1898-903.

Pizzini, Mina J. 2006. "The Relation between Cost-System Design,

Managers' Evaluations of the Relevance and Usefulness of Cost Data, and Financial Performance: An Empirical Study of US Hospitals." *Accounting, Organizations and Society* 31, no. 2 (2006): 179-10.

Porter, M. "Competitive Advantage of Nations: Creating and Sustaining Superior Performance." *Harvard Business Review* March-April (1990): 73-93.

Pronovost, Peter J., Marlene R. Miller, and Robert M. Wachter. "Tracking Progress in Patient Safety: An Elusive Target." *Jama* 296, no. 6 (2006): 696-9.

Ramljak, Branka, and Andrijana Rogošić. "Strategic Management Accounting Practices in Croatia." *The Journal of International Management Studies* 7, no. 2 (2012): 93-100.

Rickwood, Collin P., Jeff B. Coates, and Ray J. Stacey. "Stapylton: Strategic Management Accounting to Gain Competitive Advantage." *Management Accounting Research* 1, no. 1 (1990): 37-49.

Ridder, H.-G., Doege, V. and Martini, S. "Differences in the Implementation of Diagnosis-Related Groups across Clinical Departments: A German Hospital Case Study." *Health Services Research* 42, no.6 (2007): 2120-39.

Rosli, Mohamad Hafiz Bin and Jamaliah Said. "Strategic Management Accounting (SMA) Usage in Malaysian Government-Linked Companies (GLCs)." 2, no 1 (2014): 23–46.

Shazali, Nurul Aifaa, Nurul Fadly Habidin, Naimah Ali, Nur Afni Khaidir, and Noor Hidayah Jamaludin. "Lean Healthcare Practice and Healthcare Performance in Malaysian Healthcare Industry." *International Journal of Scientific and Research Publications* 3, no. 1 (2013): 1-5.

Simmonds, K. Strategic Management Accounting. *Management Accounting* (April) 1981: 26-9.

Sinnadurai, D., and L. Fong. "Leadership Approaches to Address Performance Management and Appraisal Issues in Malaysia." *International Journal of Scientific and Research Publications* 5, no. 4 (2015): 1-4.

Stock, Gregory N., and Kathleen L. McFadden. "Improving Service Operations: Linking Safety Culture to Hospital Performance." *Journal of Service Management* 28, no. 1 (2017): 57-84.

Tillmann, Katja, and Andrew Goddard. "Strategic Management Accounting and Sense-Making in a Multinational Company." *Management Accounting Research* 19, no. 1 (2008): 80-102.

Tseng, Shu-Mei. "A Study on Customer, Supplier, and Competitor Knowledge Using the Knowledge Chain Model." *International Journal of Information Management* 29, no. 6 (2009): 488-96.

Turner, Michael J., Sean A. Way, Demian Hodari, and Wiarda Witteman. "Hotel Property Performance: The Role of Strategic Management Accounting." *International Journal of Hospitality Management* 63 (2017): 33-43.

Wachter, Robert M. "Patient Safety at Ten: Unmistakable Progress, Troubling Gaps." *Health Affairs* 29, no. 1 (2009): 165-73.

Wang, Haizhong, Rajeev Batra, and Zengxiang Chen. "The Moderating Role of Dialecticism in Consumer Responses to Product Information." *Journal of Consumer Psychology* 26, no. 3 (2016): 381-94.

Reinartz, Werner, Manfred Krafft, and Wayne D. Hoyer. "The Customer Relationship Management Process: Its Measurement and Impact on Performance." *Journal of Marketing Research* 41, no. 3 (2004): 293-305.

Wilde, Tim RW, Femke S. Ten Velden, and Carsten KW De Dreu. "The Neuropeptide Oxytocin Enhances Information Sharing and Group Decision Making Quality." *Scientific Reports* 7 (2017): 40622.

Yu, Chung-Long, Fatima Wang, Keith D. Brouthers, George Nakos, and Lance Brouthers. "International Competitor Identification and Firm Performance." *Academy of Management Proceedings.* Briarcliff Manor, New York: Academy of Management (2013): 11417.

Zakaria, Mustafa. "Strategic Management Accounting Information Usage and the Performance of SMEs in Malaysia." *International Journal of Science Commerce and Humanit*ies 3, no. 1 (2015): 99-113.