Performance Measurement System, Organisational Learning and Business Unit Performance in Islamic Banks

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ABSTRACT

This study examines the relationship between performance measurement systems (PMS), business unit, and profit and loss sharing (PLS) financing performance in Islamic Banks. Two elements of PMS were studied –strategic PMS and interactive use of PMS. Utilising the survey method, questionnaires were mailed to 256 business units of Islamic Banks in Indonesia, of which 99 were returned. Employing the resourced-based view, it is expected that the effect of PMS on both performances is indirect through organisational learning. Nevertheless, strategic PMS is also expected to have a direct relationship with business unit performance. Tested using Partial Least Squares regression, the results indicate that the interactive use of PMS is indirectly related to performances through organisational learning. Strategic PMS was found to be directly related to business unit performance. The findings highlight the role of PMS in enhancing organisational learning in Islamic Banks, which translates into high performance.

Keywords: Performance measurement system; interactive control; organisational learning

INTRODUCTION

Islamic banks were established to conform to Islamic law, which prohibits interest in all aspects of their activities. Thus, all transactions and products are operationalised according to Shariah law, which leads to significant differences in many parts of their operations compared to the conventional banks. For funding activities, Islamic banks apply profit and loss sharing (PLS) contracts such as *mudharabah* along with fee-based contracts such as *wakalah* and *wadiah*. Whereas in financing activities, Islamic banks apply debt-based financing, which is usually called contract of exchange, such as *murabahah* and also PLS contracts such as *mudharabah* and *musharakah* (Khan 1995; Rosly 2005: 57).

Although Islamic banks apply many kinds of funding and financing contracts, as approved by the Shariah Law, most theoretical models of Islamic banking are based on PLS contracts (Siddiqi 1983: 22; Al-Omar & Abdel-Haq 1996: 12; Lewis & Algaoud 2001: 1-3). Scholars in Islamic studies also support the PLS contract as a basic concept of Islamic banks because it reflects the commitment of Islamic Banks towards community development (Samad & Hassan 1999). Accordingly, the literature suggests that the application of PLS contracts should be increased (Chapra 1985; Khan 1995; Samad & Hassan 1999; Ahmed 2002). A large number of PLS contracts should be among the Islamic banks objectives. However, the practice of Islamic banks shows that PLS contracts were marginally applied (around 20% of the total financing) in the financing activities (Iqbal & Molyneux 2005; Iqbal & Mirakhor 2007: 150).

Relative to conventional banks, the instruments introduced by Islamic banks for their funding and financing activities are considered new to the banking industry. In addition, organisational members involved in conducting Islamic bank activities mostly get their training and working experience from conventional banks. Consequently, debt-based financing instruments for instance, are more familiar to the practitioners. If Islamic banks are to conform to the basic concept, this practice needs to be changed. Thus, there is a need for the members to learn the Islamic based instruments and internalize the need according to Shariah Law. Based on prior literature on organisational learning, gaining new knowledge through effective learning could change the organisational members mind set and behaviour to react to changes.

Organizational learning is the process whereby members of the organization respond to changes in the internal and external environments of the organization (Argyris 1994). In addition, Senge (1990) defines organisational learning as a fundamental shift or movement of mind, enabling the environment to be perceived differently, and to realize that the organization's actions create problems and solutions. Marquardt and Reynolds (1994) define learning as a process by which individuals gain new knowledge and insights to change their behaviour and actions. Through the learning process, it may be argued that managers of Islamic banks will be more inclined to practice PLS financing and, in turn, this will increase Islamic bank performance.

Studies in the control system argued that management control systems (MCS) are related to organisational learning. Hopwood (1987), Dent (1990) and Kloot (1997) stated that control systems can be proactive in the management of organisational change by suggesting new possibilities. Planning and control systems can

be designed to promote curiosity and experimentation (Dent 1990), and can open up possibilities for creating new images of the organization and the way it interacts with its environment. According to Simons (1995), the interactive use of MCS is to sense when things are right for seizing new opportunities and shifting direction. The search, surveillance, dialogue and debate surrounding the interactive process allow learning to occur.

Following this, using the resource-based perspective, Henri (2006) found that interactive use MCS, including performance measurement system (PMS), significantly affect organisational capabilities including organisational learning. Mahama (2006) found that performance measurement systems (PMS), which include financial and non financial performance, affect a dimension of organisational capability, namely, cooperation, which implies that PMS may also affect organisational learning. The effect of PMS (strategic PMS) on organisational learning was also found by Chenhall (2005).

Previous studies showed the relationship between PMS and overall organisational performance (Hoque 2004; Henri 2006; Widener 2007), performance organisational unit (Govindarajan & Fisher 1990; Johnny & Gani 2004) and the performance of the organisational process (Bruggeman et al. 1994; Choe 2004; Mahama 2006). In the banking industry, control systems, including PMS, also have an important role (Lau & Tan 1988; Middaugh II 1988; Cobb et al. 1995) including increasing the performance of bank financing (Pither 1979). However, systematic study focusing on the role of PMS in increasing Islamic banks performance, specifically in increasing profit and loss sharing financing, is very limited. In addition, while prior studies indicated the relationship between PMS and organisational learning, no study examined the effect of the interactive use of PMS and strategic PMS on organisational learning in the context of Islamic banks. To fill the gap in the literature, this study is undertaken to understand the role of organisational learning in explaining the relationship between strategic PMS and the interactive use of PMS and business unit performance, as well as PLS financing performance.

The remainder of this paper is organized as follows. The next section briefly reviews the resource-based view, organisational learning and PMS. Following this, the theoretical model for this study is presented and hypotheses formulated. The next two sections present a description of the survey design, data analysis using Partial Least Squares regression and a discussion of the results. The final section presents the theoretical contributions, practical implications, limitations and insights for future research.

THEORETICAL FRAMEWORK

THE ISLAMIC BANK ENVIRONMENT

Islam strictly prohibits interest-based activities or any transactions that involve *riba*. As a result, in loan agreement, an Islamic bank may not require collateral security from its customers, which form the basis for most interest-based systems conducted in conventional banks. Conventional banks put too much emphasis on security and guarantees in financing (Ahmed 2006) by relying on the role of collateral for giving financing. Iqbal and Mirakhor (2007) added that conventional banks are also concerned about the profitability of the project, however, they put emphasis on receiving interest payments according to set time intervals. As long as this condition is met, the bank's profitability is not directly affected by whether the customer has high or low return.

In contrast, Islamic banks have a direct interest in encouraging good managerial practices in the business of its customers. In order to ensure profitable projects in financing decisions, Islamic banksmay need to conduct a feasibility study and examine the character of the customer. In addition, the mechanism to reduce the moral hazard problem by reporting lower returns should be developed (Al Omar & Abdel-Haq 1996: 14). Hassan and Bashir (2003) emphasised that Islamic banks should conduct projects with higher returns with a reasonable degree of risk to compensate the higher risk on Islamic bank assets. Therefore, information concerning the return prediction is very important to make sure that the financing will be returned safely. Nienhaus (1983) suggested that specialization in certain projects enhances the ability of banks to understand project characteristics, therefore, Islamic banks may find innovative opportunities for highly profitable PLS financing.

Iqbal and Mirakhor (2007), and Lewis and Algoud (2001) added that the problem faced by Islamic banking encourages banks to focus on the long term relationship with their client. This focus on the long-term relationship means that there might be higher costs, particularly for the cost of monitoring, which is time consuming, as well as complicated assessment procedures that require expertise and experience.

All the features concerning Islamic banks described above imply that the environment in which banks conduct their activities is different from conventional banks. It suggests that the professional orientation of bank staff, work culture, and technology should be changed to ensure conformity with Shariah law.

RESOURCE-BASED VIEW AND ORGANIZATIONAL LEARNING

The resource-based view (RBV) is based on the principle that competitiveness is a function of distinctive and valuable resources and capabilities controlled by a firm. The RBV conceptualizes firms as bundles of resources heterogeneously distributed across firms, and that resource differences persist over time (Amit & Schoemaker 1993; Amit & Wernerfelt 1990). Resources that are valuable, rare, inimitable and non-substitutable lead to the achievement of sustainable competitive advantage that cannot be easily duplicated by competitors (Barney 1991). Resources

include various elements that can be used to implement value-creating strategies: specific physical assets (e.g. specialized production facilities, geographic location), human resources (e.g. engineering experience, expertise in chemistry), organisational assets (e.g. management skills, superior sales force), and competencies (e.g. miniaturization, imaging) (Barney 1991; Eisenhardt & Martin 2000; Teece et al. 1997). McNamara et al. (2004) argued that MCS is a resource leading to competitive advantage.

Some writers on RBV argue that resources do not directly affect competitive advantage. However, resources affect competitive advantage indirectly through organisational capabilities (Lei-Yu Wu 2006; Henri 2006). Organizational capabilities are the organisational processes through which firms synthesize and acquire knowledge resources, and generate new applications from those resources (Kogut & Zander 1996). Organizational learning is one important type of organisational capability. Organizational learning does not only affect organisational performance (Garcı́a-Morales & Llorens-Montes 2006; Prieto & Revilla 2006; Garcia-Morales et al. 2007; Jiménez-Jiménez & Cegarra-Navarro 2007) but it also affects other types of organisational capabilities such as innovativeness (Hult et al. 2004) and market orientation (Santos-Vijande et al. 2005).

Senge (1990) defined organisational learning as a fundamental shift or movement of mind, enabling the environment to be perceived differently, and to realize that the organization's actions create problems and solutions. Hames (1994) defined learning as encompassing the acquisition and practice of new methodologies, new skills, new attitudes, and the new values necessary to live in a world that is changing. Learning is preparing to deal with new situations. The purpose of learning is 'informed action' and requires more than being told (concepts) and being shown (skills): it requires transforming experiences. Thus, organisational learning is the process by which the organization: (1) detects problems both within the organization and with the organization's 'fit' with the environment and (2) determines the solutions to problems and how to adapt to environmental changes. Therefore, organisational learning is also defined as organisational change in response to environmental change (Argyris 1994; Senge 1990).

In summary, the RBV acknowledges that firms possess bundles of resources including the management control systems such as the PMS. Nevertheless, the PMS will not contribute to competitive advantage unless proper organisational learning is put in place to enable adaptation to a changing environment.

MANAGEMENT CONTROL SYSTEM AND PERFORMANCE MEASUREMENT SYSTEMS

An early definition of MCS suggested that they are designed to ensure that the organization adapts to changes in its environment (Lowe 1971). Lowe (1971) defined a MCS in terms of this adaptation as: a system of organisational information seeking and gathering, accountability and feedback designed to ensure that the enterprise adapts to changes in its substantive environment and that the work behaviour of its employees is measured by reference to a set of operational sub goals (which conform to overall objectives) so that the discrepancy between the two can be reconciled and corrected. However, Hopwood (1987) and Dent (1990) argued that control systems can be proactive in the management of organisational change by suggesting new possibilities. Planning and control systems can be designed to promote curiosity and experimentation (Dent 1990) and can open up possibilities for creating new images of the organization and the way it interacts with its environment. For Islamic Banks where new financial instruments are being developed, proper management control systems, such as PMS, with a more strategic focus and an interactive way of using the PMS could promote learning that is needed by the managers.

This study uses a broad concept of MCS to include all those organisational arrangements and actions as suggested by (Ansari 1977). Some writers classify the elements of MCS differently (Simons 1990; Ansari 1977; Rotch 1993; Kloot 1997; Zimmerman 2003; Merchant & Van der Stede 2003 and Malmi & Brown 2008). Accordingly, this study focuses on two concepts of Performance Measurement System (PMS) – as an element of the general MCS, i.e. strategic performance measurement system (strategic PMS) and interactive use of PMS. The importance of PMS as an element of MCS is supported by prior studies. Zimmerman (2003) argued that PMS is an important element of MCS because it reflects the most important role of accounting as a measurement system. It has also been acknowledged that PMS is a key agent of change (Brignall 1997) and its role in providing accurate feedback on effectiveness and efficiency of operations has been frequently emphasized.

Interactive Use of PMS Following Anthony (1965), many researchers have focussed on the role of MCS for strategy implementation. More recently, Simons (1990, 1994, 1995) expanded the role of MCS by including the interactive use of MCS, focusing on how MCS influences strategy formulation. MCS becomes interactive when business managers use planning and control procedures to actively monitor and intervene in ongoing decision activities of subordinates. Since this intervention provides opportunities for top management to debate and challenge underlying data, assumptions and action plans, interactive MCS demand regular attention from operating subordinates at all levels of the company.

Simons (1990) argued that the intended business strategy of a firm creates strategic uncertainties. Top managers make selected MCS interactive to personally monitor the strategic uncertainties that they believe to be critical to achieve the organization's goal. The choice by top managers to make certain control systems interactive

provides a signal to organisational participants about what should be monitored and where new ideas should be proposed and tested. This signal activates organisational learning and through the debate and dialogue that surrounds the interactive MCS, new strategies and tactics emerge overtime.

Strategic PMS Kaplan and Norton (1992) stated that traditional financial accounting measures can give misleading signals for continuous improvement and innovation. Accordingly, they suggested a strategic PMS framework,which is known as balanced scorecards. A distinctive feature of strategic performance measurement systems (Strategic PMS) is that they are designed to present managers with financial and nonfinancial measures covering different perspectives,which, in combination, provide a way of translating strategy into a coherent set of performance measures (Chenhall 2005). The perspectives that are relevant to profit orientated companies most often includefinancial, customers, internal processes and long term innovation perspectives. The balanced nature of the strategic PMS is particularly suited to service organizations, such as Islamic Banks that need to focus not only on their financial performance but their long term survival, which also depends on the customers, governance structure and innovativeness. This system of associated measures has the potential to identify the cause-effect linkages that describe the way operations are related to the organization's strategy. The aim is to provide a rational framework to formulate and implement strategies (Chenhall 2005).

CONCEPTUAL MODEL AND HYPOTHESES FORMULATION

As mentioned in the literature reviewedabove, the resource-based view acknowledges that firms possess resources such as PMS. Nevertheless, it was argued that PMS does not contribute directly to performance, but rather indirectly through organisational capabilities. In this study, the conceptual model is based on the premise that strategic PMS and the interactive use of PMS will affect Islamic bank performance through organisational learning. In particular, the theory predicts that organisational learning is likely to mediate the relation between the two elements of PMS Islamic bank business unit performance and financing performance. The financing performance includes the quality and quantity of PLS financing. The model is shown in Figure 1.

HYPOTHESES FORMULATION

Interactive Use of PMS and Organizational Learning
Focusing on organisational dialogue and signalling, interactive use of PMS represents an adequate means to foster organisational learning. Interactive use reflects two important features associated with organic controls: (i) loose and informal controls reflecting norms of cooperation, communication and emphasis on getting things done, and (ii) open channels of communication and free flow of information through out the organization (Burns & Stalker 1961). An interactive use of PMS has the power to focus organisational attention on the specific strategic uncertainties for which knowledge must be generated (Kohli & Jaworski 1990).

In addition, Simons (1995) also argued that through interactive control systems, top managers send messages to the whole organization in order to focus attention on strategic uncertainties. Consequently, interactive control systems place pressure on operating managers at all levels of the organization, and motivate information gathering, face-to-face dialogue and debate. As participants throughout the organization respond to the perceived opportunities and threats, new ideas flow and organisational learning is stimulated. By using interactive MCS to monitor strategic uncertainties, top managers reveal their values and preferences to the many individuals in the organization who have input in the decision processes (Simons 1990). Managers use interactive MCS to influence and guide the
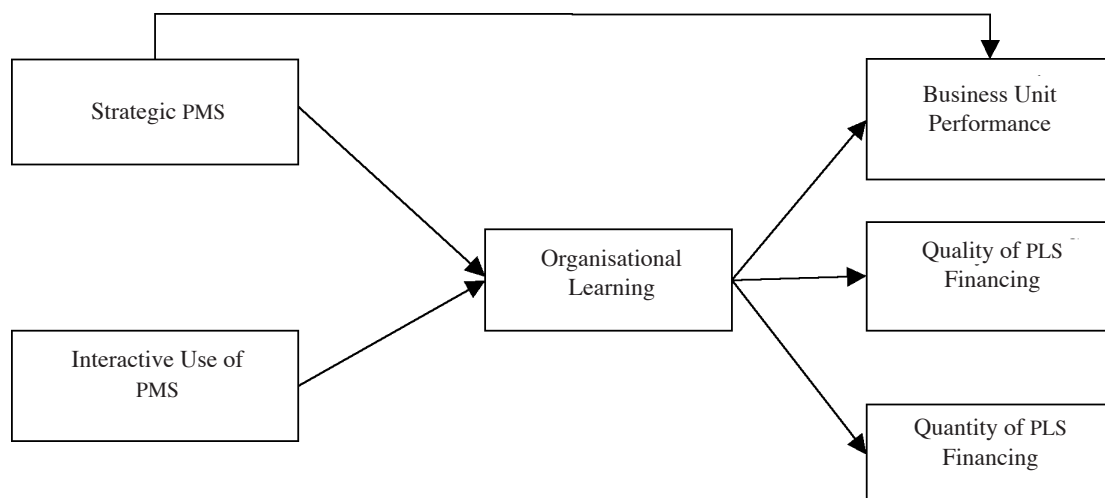

FIGURE 1. Model of the Study

learning process, understanding that individual ideas and initiatives will emerge over time. For Islamic Banks, deviation from the established norms of conventional banks requires members to constantly interact to facilitate learning. With regard to the relationship between PMS and organisational learning, Henri (2006) found that the interactive use of PMS significantly affects organisational learning. Accordingly, it is hypothesized that:

H_1: There is a positive relationship between interactive use of PMS and organisational learning.

Performance Measurement System and Organizational Learning There are arguments that PMS may support organisational learning including information acquisition, interpretation, distribution and organisational memory. As traditional financial measures can give misleading signals for continuous improvement, some writers developed a more comprehensive PMS, which is based on the financial and non-financial performance (Kaplan& Norton 1992; Ittner et al. 2003; Chenhall 2005).

The more comprehensive aspect of PMS, which is usually called strategic performance measurement, is suitable in organizations facing a changing environment (Santos et al. 2002) and may increase information acquisition by providing information about the internal and external environment of the organization. Strategic PMS allows decision makers to increase their understanding about the process underlying performance generation; to understand the implications of alternative courses of action; determine the underlying causes behind the existing situation; and to identify future trends and their implications for the organization (Feurer & Chaharbaghi 1995), hence, supporting the process of information interpretation.

The use of PMS to implement strategy and to communicate strategic uncertainties and emerging strategy can be important in facilitating the distribution of strategic priorities through the organization (Simons 1995) and, hence, information distribution. Malina and Selto (2001) provided empirical evidence that emphasises the role of financial and non financial information in increasing information distribution. Accounting and formal information systems have been identified as important for developing organisational memory (Huber 1991). It seems that PMS may increase organisational memory by providing the basis to store information on integrated plans (Chenhall 2005).

Chenhall (2005) examined the relationship between strategic PMS on organisational learning by developing three aspects of PMS, including strategic and operational linkage, supplier orientation and customer relation. His study found that PMS based on strategic and operational linkage and PMS based on customer orientation have a positive effect on organisational learning. Based on the previous study described above, the formal hypothesis concerning the relationship between PMS and organisational learning will be stated as follows:

H_2: There is a positive relationship between strategic PMS and organisational learning.

Organizational Learning and Performance Previous studies have found that organisational learning has a significant effect on overall organisational performance (Garcı́a-Morales & Llorens-Montes 2006; Prieto & Revilla 2006; Garcia-Morales et al. 2007; Jiménez-Jiménez & Cegarra-Navarro 2007) as well as on the specific performance. Panayides (2007) argued that organisational learning affects the performance of logistic service while Carter (2005) found that organisational learning affects supplier performance. Based on the argument of the previous study, this study argues that organisational learning may also have a significant effect on Islamic bank performance as well as on PLS financing performance. By conducting organisational learning, Islamic banks may respond to changes in their business activities to conform to the Islamic product by gaining new knowledge of their business process. The argument supported that organisational learning may have a relationship with PLS financing performance based on the argument described as follows.

The return received by the bank depends on the return of the project being funded. Accordingly, the performance of PLS financing depends on the capability of the Islamic banks in conducting a feasibility study for the entrepreneur's proposal (customer's proposal). However, some writers argued that Islamic banks have limited capability in conducting feasibility studies (Kuran 1995; Khan 1995; Ahmed 2003; Lewis & Algoud 2001: 152). In fact, the lack of profit and loss sharing contract in Islamic bank financing is due to the limited capability of Islamic banks to monitor PLS financing (Errico & Farahbaksh 1998; Khan 1995). As a new type of financing contract in the banking industry, it is understandable that there is a problem in conducting this type of financing. Accordingly, by enhancing organisational learning, it is suggested that Islamic banks will have a higher PLS contract in financing than without organisational learning.

The relationship between organisational learning and performance can be formally stated as follows:

H_3: There is a positive relationship between organisational learning and business unit performance and the performance of PLS financing.

PMS and Performance Chenhall (2005) argued that there is a direct relationship between PMS on competitive strategic outcomes. Mahama (2006), however, found a significant effect of PMS on relationship performance in strategic supply relationships. Based on the findings of Chenhall (2005) and Mahama (2006) this study also predicts that PMS will have a significant effect on Islamic bank business unit performance.

H_4: There is a positive relationship between strategic PMS and Islamic bank business unit performance.

Interactive Use of PMS and Performance Simons (1990) argued that the interactive use of PMS provides a signal to organization participants about what should be monitored and where new ideas should be proposed and tested. This signal promotes organisational learning. Through the debates and dialogues, new strategies and tactics emerge over time leading to competitive advantage. Therefore, the relationship between the interactive use of PMS and performance was found to be indirect through organisational learning. Bisbe and Otley (2004) also supported that there is an indirect effect between the interactive use of MCS and organisational performance.

Similarly, this study also argues that there is no direct effect between strategic PMS and the interactive use of PMS on PLS financing performance. Studies focusing on the financing activities support an indirect relationship between control systems and financing performance.

METHODOLOGY

SAMPLE SELECTION AND DATA COLLECTION

Self-administered questionnaires (including reply-paid envelopes) were mailed directly to financing managers of Indonesian Islamic banks. Indonesian banks were selected for this study because the practice of profit sharing financing in Indonesian Islamic banks is considered the highest in the world. It was reported that, for the period between 2004 and 2007, the percentage of profit sharing financing in these banks was around 29 to 36 percent of the total financing (Bank Indonesia 2004, 2005, 2006, 2007). In addition, this study uses the Islamic bank business unit as the unit of analysis. In January 2008, there were approximately 256 Islamic bank business units in Indonesia (Monthly Report of the Central Bank of Indonesia 2008) and this study treats all 256 bank business units as respondents.

Respondents were selected from the financing managers, as they are mostly responsible for managing the financing activities of the bank. The respondents were asked to rate their perspective of the bank in which they work, concerning the quantity of profit sharing financing, the quality of the profit sharing financing process, the level of organisational learning in the bank in which they work, and also on the performance measurement system in their banks. One week after mailing the questionnaires, reminder letters (including a second copy of the questionnaire) were sent to all managers (and follow-up phone calls were made to all of them), entreating those who had not yet responded

to do so and thanking those who had responded. Of the 256 questionnaires sent to the targeted sample, 101 were returned resulting in a response rate of 39.5 percent. Out of the 101 questionnaires returned, two questionnaires were from lower level bank business units, which is not the object of the study. Accordingly, only 99 questionnaires were included for further analysis.

Descriptive statistics of the companies and the respondents are summarized in Table 1. Company age, on average, is 5 years and the average number of employees is 65. In addition, the average assets of the banks amount to 463 billion rupiah.

MEASUREMENT OF VARIABLES

The questionnaire included items measuring the strategic PMS, interactive use of PMS, organisational learning, business unit performance and PLS financing performance. Established scales were used for most variables except PLS financing performance. The development of final instrument, however, involved a review from academics with experience in survey design. As this is the first time the instruments were to be applied in the Islamic bank context, several questionnaires were sent to bank practitioners to ensure suitability and understanding. These procedures resulted in refinement and modification of the measures. The discussions of the measure of each construct are as follows:

Profit Sharing Financing Performance Referring to the rational goal model and internal process model, as suggested by Lewin and Minton (1986), this study measures PLS financing performance using two criteria. The rational goal model is applied when using the quantity of profit sharing financing as the criteria of performance. The quantity of profit sharing financing performance was measured using a single item. Respondents were asked to rate the percentage of the quantity of profit sharing financing in Islamic banks in which they work compared to their competitors.

The internal process model is applied with the use of the quality of financing process (Lin & Mei 2006) as the criteria of profit sharing performance. To measure the quality of profit sharing financing performance, respondents were asked to rate the extent to which the process of profit sharing financing were conducted using ten items, including: determination of the collection of information concerning 4C criteria (character, capacity, condition, and capital) as accurate and complete; quality of analysing the loan recommendation report made in accordance with the 4C information; explanation of the

TABLE 1. Descriptive Statistics of the Companies

	No of Banks	Minimum	Maximum	Average Standard	Deviation
Company age	99	1.00	15.00	5.0303	2.60476
No of employees	99	9.00	3200.00	64.2222	320.20222
Assets	95	18.00	16200.00	463.1684	2095.91962

enterprise's future financial situation and quality prediction using the loan recommendation report and 4C information; accuracy in the preparing of loan related documents and contracts; full completion of the documents and contracts received; check of relevant documents of loan operations; check of relevant documents of financing; timely reaction made to the unusual payment situation of the customer; the accuracy and completeness of the 4C information gathered by periodic inspection; analysis of the recommendation report made for 4C information. The measures were anchored on a 7-point scale. Low scores indicated low quantity and quality of profit sharing financing while high scores indicated high quantity and quality of profit sharing financing.

Strategic Performance Measurement System Performance measurement systems (PMS) represent a set of metrics used to quantify actions (Neely et al. 1995). These metrics can be financial or non-financial, internal or external, short or long term as well as ex post or ex ante. The performance measurement systems used in this study were based on the measurement of strategic PMS in the financial sector, as developed by Ittner et al. (2003). The measurement consisted of ten items concerning the bank performance in short-term financial results, customer relations, employee relations, operational performance (e.g. productivity, safety, cycle time); product and service quality, alliance with other organizations, supplier relations, product and service innovation, and community involvement. The measures were anchored on a 7-point scale. Low scores indicated low strategic PMS practices while high scores indicated high strategic PMS practices.

Interactive Use of PMS Management controls become interactive when business managers use planning and control procedures to actively intervene in the ongoing decision activities of subordinates (Simons 1994). Through interactive use of control, senior managers participate in the decisions of subordinates and focus organisational attention and learning on key strategic issues. The interactive use of the performance measurement system was measured using the instrument developed by Henri (2006). For the interactive use of PMS, respondents were asked to rate the extent to which the top management team currently uses performance measures to: enable discussion in meetings of superiors, sub-ordinates and peers; enable continual challenge and debate underlying data, assumptions and action plans; provide a common view of the organization; tie the organization together; enable the organization to focus on common issues; enable the organization to focus on critical success factors; and to develop a common vocabulary in the organization. The score of 1 indicated low interactive use of PMS while the score of 7 indicated high interactive use of PMS.

Organizational Learning Organizational learning is the process whereby members of the organization respond to changes in the internal and external environments of the organization (Argyris 1994). In addition, Senge (1990) defined organisational learning as a fundamental shift or movement of mind, enabling the environment to be perceived differently, and to realize that the organization's actions create problems and solutions. Marquardt and Reynolds (1994) defined learning as a process by which individuals gain new knowledge and insights to change their behaviour and actions. In this study, organisational learning is measured using the instrument developed by Hult (1998),which consists of 4 items: 1) ability to learn as the key to improvement; 2) basic values include learning as a key to improvement, 3) once we quit learning we endanger our future, and 4) employee learning is an investment, not an expense. Respondents were asked to rate on a 7-point scale indicating activities that very rarely happen (score 1) to activities that very frequently happen (score 7). A high score indicates high organisational learning activities.

Business Unit Performance Business unit performance was measured using 10 items, as developed by Govindarajan and Gupta (1985). The dimensions include Cash Flows, Cost Control, Employee Development, Market Development, Market Share, Product Development, Profit, Public Activity, ROI and Sales Volume. The measures were anchored on a 7-point scale. A low score indicated low business unit performance while a high score indicated high business unit performance.

PARTIAL LEAST SQUARE REGRESSION

We used PLS regression analysis using Smart PLS 2.0 (Ringle et al. 2005), to test the hypotheses in this study. PLS is a latent variable modelling technique that incorporates multiple dependent constructs and explicitly recognises measurement error (Fornell & Larcker 1981), and has been used in a number of management control system studies (Chenhall 2005; Mahama 2006; Naranjo-Gil & Hartmann 2007; Hall 2008; Verbeeten 2008). PLS is particularly suited to this study because it makes minimal data assumptions and requires relatively small sample sizes (Wold 1985). PLS comprise a measurement model and a structural model. The measurement model specifies relations between observed items and latent variables. The structural model specifies relations between latent constructs.

The adequacy of the PLS measurement model can be assessed by looking at: 1) individual item reliabilities; 2) the convergent validity of the measures associated with individual constructs; 3) discriminant validity (Hulland 1999).

In PLS, psychometric properties of the variables are examined. First, the factor loadings for items of each variable are examined. A rule of thumb employed by many researchers is to accept items with loadings of 0.7 or more. However, in practice, it is common to find that at least several measurement items have loadings below the 0.7 threshold, particularly when new items or newly developed scales are employed. Accordingly, for exploratory studies,

loadings above 0.5 are considered acceptable (Hulland 1999; Ghozali 2006). All items used in this study can be considered being used for the first time in the context of Islamic banking especially with PLS financing. Thus, in this study, items with loadings above 0.6 are considered acceptable (see Table 2).

The reliability of each variable was measured using composite reliability and Cronbach's alpha (Hulland 1999). As indicated in Table 3, all of the variables have composite reliability and alpha scores exceeding the 0.7 cut off point suggested by Nunnally (1978).

To test whether a construct shares more variance with its measures than it shares with other constructs the average variance extracted (AVE) statistics is used to assess discriminant validity. Discriminant validity represents the extent to which measures of a given construct differ from measures of other constructs in the same model. Discriminant validity can be measured by comparing the square root of AVE for each construct compared to the correlation between each indicator with another construct. Constructs have discriminant validity if the square root of AVE is greater than the correlation between the construct and another construct. As indicated in Table 4 square root, the AVE of interactive use PMS is 0.880523708. The

greatest correlation between interactive use of PMS with another construct is the correlation between the interactive use of PMS and strategic PMS, i.e., 0.779464. In this case, it can be concluded that the interactive use of PMS has discriminant validity. The square root AVE of organisational learning is 0.8515938. The greatest correlation is between, organisational learning and the quality of financing, i.e., 0.559195. In this case, organisational learning has discriminant validity. The same case applies in the case of strategic PMS, the quality of PLS financing and business unit performance.

FINDINGS

To analyse the hypothesis, the partial least squares (PLS) approach to structural equation modelling was used in this study. PLS is a component-based modelling technique that simultaneously examines theory (structural model) and measures (measurement model). The advantages in using PLS are: (a) its ability to handle multiple exogenous and endogenous constructs at the same time, (b) its ability to handle multicollinearity among endogenous constructs, and (c) its ability to create latent construct scores directly on the basis of cross products involving multi-item measures.

TABLE 2. Loadings of Measurement

Items	Loadings	Items	Loadings
BUSINESS UNIT PERFORMANCE		INTERACTIVE USE OF PMS	
Cash Flow	0.813696	Interactive use PMS 1	0.864341
Cost Control	0.638257	Interactive use PMS 2	0.870537
Employee Development	0.629457	Interactive use PMS 3	0.845525
Market Development	0.796705	Interactive use PMS 4	0.920672
Market Share	0.691241	Interactive use PMS 5	0.867394
Product Development	0.646851	Interactive use PMS 6	0.920095
Profit	0.748677	Interactive use PMS 7	0.872259
Public Activity	0.750607		
ROI	0.663248		
Sales Volume	0.723854		
		ORGANIZATIONAL LEARNING	
		Organizational Learning 1	0.893286
		Organizational Learning 2	0.905902
		Organizational Learning 3	0.764534
		Organizational Learning 4	0.835294
PLS PERFORMANCE		STRATEGIC PMS	
Quality of financing 1	0.797791	PMS 1	0.661652
Quality of financing 2	0.840440	PMS 2	0.843699
Quality of financing 3	0.827791	PMS 3	0.797647
Quality of financing 4	0.850469	PMS 4	0.748182
Quality of financing 5	0.875301	PMS 5	0.711170
Quality of financing 6	0.894555	PMS 6	0.785745
Quality of financing 7	0.875619	PMS 7	0.865850
Quality of financing 8	0.712827	PMS 8	0.770815
Quality of financing 9	0.815223	PMS 9	0.618637
Quality of financing 10	0.761414	PMS 10	0.855195
Quantity of financing 1	1.000000		
Assets	1.000000	No of Employees	1.000000
Company age	1.000000		

The outputs of path coefficients between constructs to test the hypothesis are presented in Table 5.

The objective of PLS is to maximise variance explained rather than fit, therefore prediction-orientated measures, such as R², are used to evaluate PLS models (Chin 1998). The R² for each endogenous variable is shown in Table 5. For organisational learning, the quantity of financing, quality of financing and unit business performance R² are 34%, 8%, 36%, 47%, respectively, and considered acceptable R² when compared to the R² of previous studies in management control systems, such as Chenhall (2005), Mahama (2006), Naranjo-Gil & Hartmann (2007), Hall (2008), and Verbeeten (2008).

Hypothesis 1, stated that there is a positive relationship between the interactive use of PMS and organisational learning. As shown in Table 5, the path coefficient and t statistic for the relationship between PMS and organisational learning is 0.422077 and 3.073527, respectively. This result indicates that there is a significant positive relationship ($\alpha=$ 1%) between PMS and organisational learning. Accordingly, it can be concluded that the data support hypothesis 1.

Hypothesis 2 predicted that there is a positive relationship between strategic PMS and organisational learning. The path coefficient and t statistic for the relationship between strategic PMS and organisational learning is 0.188947 and 1.598224, respectively. This result shows that there is no significant relationship between PMS and organisational learning. Accordingly, hypothesis 2 is not supported.

The third hypothesis stated that there is a positive relationship between organisational learning and PLS financing performance as well as Islamic bank performance. As described in Table 5, the result shows that there is a significant ($\alpha=5\%$) positive relationship between organisational learning and the quantity of PLS financing. In addition, the finding indicates that there is a significant positive relationship between organisational learning and the quality of PLS financing ($\alpha=1\%$). In the case of the relationship between organisational learning and business unit performance, the result supports that there is a positive relationship between organisational learning and business unit performance ($\alpha=10\%$). Overall, the results indicate that hypothesis 3 is supported.

Hypothesis 4 predicts that there is direct relationship between strategic PMS and business unit performance. The results indicate that the prediction is supported ($\alpha=1\%$).

DISCUSSION AND CONCLUSION

In this study, the relationship between Islamic Banks PMS and their performance is examined, highlighting the role of organisational learning. Two aspects of PMS are studied, namely, the strategic PMS and the interactive use of PMS. Both aspects are identified as relevant to the Islamic Banks as the industry is considered young in the banking industry and found to be resilient to the current economic crisis.

TABLE 3. Composite Reliability

	Composite Reliability	Cronbach's Alpha
Interactive use PMS	0.960212	0.951588
No of Employees*	1.000000	1.000000
Organizational Learning	0.913127	0.872454
PMS	0.935064	0.921778
Quality of Financing	0.955605	0.948220
Quantity of Financing*	1.000000	1.000000
Assets*	1.000000	1.000000
Business Unit Performance	0.911211	0.891796
Company Age	1.000000	1.000000

*measured using single item

TABLE 4. Latent Variable correlation and Square Root AVE

	Interactive use PMS	Organizational Learning	SPMS	Quality of Financing	Quantity of Financing	Business Unit Performance
Interactive use PMS	**0.880523708**					
Organizational Learning	0.569355	**0.8515938**				
Strategic	0.779464	0.517941	**0.769851284**			
Quality of Financing	0.678084	0.559195	0.711128	**0.826855489**		
Quantity of Financing	0.144900	0.203626	0.090457	0.172145	**1.000000**	
Business Unit Performance	0.593662	0.457904	0.621268	0.447492	0.186159	**0.713053294**

The bold numbers indicated square root AVE, while another numbers indicate the correlation between variables.

TABLE 5. Path Coefficient of the Structural Model (*t* statistic in bracket)

INDEPENDENT VARIABLES	DEPENDENT VARIABLES			
	Organizational Learning	Quantity of Financing	Quality of Financing	Business Unit Performance
Interactive Use PMS	0.422077 (3.073527)***	-	-	-
Strategic PMS	0.188947 (1.598224)	-	-	0.497325 (3.842199)***
Organizational Learning	-	0.226086 (2.426731)**	0.510133 (7.323640)***	0.183533 (1.693545)*
Assets	-	-0.058123 (0.551133)	0.307360 (2.999525)***	0.074489 (1.054167)
No of Employees	-	0.218095 (1.648288)	-0.277340 (2.607372)***	0.166466 (1.790674)*
Company Age	-	-0.136667 (1.524964)	0.024078 (0.371621)	0.058902 (1.221618)
R^2	0.338175	0.079498	0.364801	0.473069

*p< 10% (two-sided).**p < 5% (two-sided).***p<1%

We calculated t-values through a bootstrapping with 99 cases and 500 samples.

The finding pertaining to the significant relationship between interactive use of PMS on organisational learning supports Simons (1990) – that interactive use of MCS guides the learning process. Additionally, the result is consistent with Henri (2006), who found that interactive use of PMS significantly affects organisational learning. However, the insignificant relationship between strategic PMS on organisational learning contradicts Chenhall (2005), who found that strategic PMS had a significant effect on organisational learning. Consequently, the finding of the study showed a mixed result regarding the prediction of the resource-based view that company resources, i.e.,PMS, may have a significant effect on organisational capabilities. One possible explanation is that the measurement of strategic PMS used in this study was adopted from the instrument developed in the financial sector by Ittner et al. (2003). This consists of ten items including bank performance in the short-term financial result, customer relations, employee relations, operational performance(e.g. productivity, safety, cycle time); product and service quality, alliance with other organizations, supplier relations, product and service innovation, and community involvement. According to the literature (Feurer & Chaharbaghi 1995), this integrated set of measures supports the process of information interpretation and, thus, would be likely to enhance learning for Islamic banks faced with the need to understand financial instruments based on Shariah Law. The findings of this study, however, suggest that having this comprehensive set of measures, does not ensure learning in Islamic Banks. It is the way it is being used, that is, interactively, that affects organisational learning. In other words, for performance measures to assist information acquisition, the learning process needs to be supplemented by clear top management values and preferences through a more interactive style of control.

The results also show that PMS had a significant relationship with the Islamic banks performance.The interactive use of PMS is indirectly related to performance through organisational learning. Therefore, the findings confirm prior studies by Chenhall (2005) and Mahama (2006), who argued that organisational capabilities enhanced business performance. However, strategic PMS is directly related to business unit performance.

These findings offer interesting insights into the practice of Islamic Banks. The concept of prohibiting interest, which is the thrust of conventional banks appears to support the survival of the Islamic banks, however, learning is required if they are to remain competitive and sustainable. The positive relationship between interactive use of PMS and organisational learning suggests that when Islamic bank managers use planning and control to actively monitor decision activities by subordinates, learning will take place. This will further enhance the quantity as well as quality of PLS financing performance, which is the basis of Islamic banks.

The findings of this study also contribute to the study of Islamic bank performance, specifically on profit and loss sharing performance. Previous studies concerning Islamic bank performance mostly deal with overall performance of Islamic banks. In this study, profit and loss sharing performance and Islamic bank business unit performance are both presented for analysis. Theoretically, this study supports the role of the resource-based view in explaining the determinants of profit and loss sharing performance and Islamic bank unit business performance. Most previous studies utilized the agency theory when dealing with profit and loss sharing performance. In addition, previous studies on profit and loss sharing financing mostly deal with the behaviour of Islamic bank customers. This study focuses on the behaviour of Islamic banks. Accordingly, the study on profit and loss sharing financing becomes more

comprehensive if the researcher gives attention not only to the demand, i.e., the customer, but alsoto the supply side of the financing, i.e., the banks.

The interpretation of this study, however, should consider several limitations. First, it has to be acknowledged that there are also banks that operate using the Islamic practices alongside their conventional activities. In this study, we only include banks that operate totally under the Islamic principle. While it is beyond the scope to study these banks, we believe that the similarity in conforming to the prohibition of interest would also make the findings of this study applicable to these non-interest based banks. Future studies may extend this study to include such banks as they also form a large component of the banking industry. Second, the elements of MCS being studied only include the performance measurement system. Other elements of MCS such as organisational structure and reward system may affect organisational learning, and may be considered in future studies. In addition, this study only focuses on one element of organisational capabilities. Future research may extend this study to include another type of organisational capability, such as cooperation, entrepreneurship and market orientation as factors that may affect profit and loss sharing performance and Islamic bank business unit performance.

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