

Market Orientation, Nonfinancial Performance Measures, and Performance: Evidence from Thailand

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ABSTRACT

The present study sought to examine the mediating effect of managerial use of nonfinancial performance measures in the relationship between market orientation and organizational performance. Data were collected from 203 departmental managers of medium to large hotels in Thailand. Path analysis was used to test the proposed hypothesis. The results indicate that market orientation is significantly related to the use of nonfinancial performance measures, and the use of nonfinancial performance measures is significantly associated with organizational performance. Thus, the use of nonfinancial performance measures plays a mediating role in the relationship between market orientation and organizational performance. An explanation for the results is that the use of nonfinancial performance measures can assist market-oriented Organisations to deliver products/services with superior value to meet customer needs and expectations, leading to improved organizational performance.

Keywords: *Market orientation, nonfinancial performance measures, organizational performance, Thailand*

INTRODUCTION

Researchers and practitioners have argued that Organisations may require more nonfinancial performance measures (indicators) because these measures can reflect the capabilities (e.g. customer satisfaction, innovation, service quality, efficiency of process, and employee performance) that are imperative to the success of Organisations in today's business environment (Atkinson et al., 1997; Ittner and Larcker, 1998a; 1998b; Lynch and Cross, 1991; Kaplan and Norton, 1992; Simons, 2000; Verbeeten and Boons, 2009). By closely monitoring nonfinancial performance measures, managers are able to improve such capabilities, which in turn may enhance organizational performance (Hoque 2005; Kaplan and Norton, 1992; 1996; 2001; 2004; Malina and Selto, 2001).

A review of the relevant literature suggests that previous studies have empirically examined the relationship between the use of nonfinancial performance measures and organizational performance (Banker et al., 2000; Ittner and Larcker, 1998b). However, the results of previous studies have been mixed (Hoque 2005). For example, a study by Baines and Langfield-Smith (2003) indicates that increased reliance on nonfinancial performance measures is positively related to performance. A study by Hoque and James (2000) also indicates a positive relationship between the use of financial and nonfinancial performance measures and organizational performance. On the other hand, studies by Brancato (1995) and Ittner and Larcker (1998b) indicate that managers have difficulty linking nonfinancial performance measures to financial performance. A potential reason for the mixed results is that nonfinancial performance measures may not be beneficial to all Organisations in all circumstances (Chenhall, 2003; Hoque, 2005; Ittner and Larcker, 1998b; Otley, 1980). Based on the contingency theory, the effectiveness of management control systems (i.e. the use of nonfinancial performance measures) depends on the contexts or circumstances surrounding the Organisations (e.g. environment, organizational structure and strategy) (Chapman, 1997; Chenhall, 2003; Gordon, 2000).

In order to achieve better performance, Organisations are required to design their use of nonfinancial performance measures to fit their contexts or circumstances (HassabElnaby et al., 2005; Said et al., 2003). Prior research has widely examined the fit between contextual factors and

the use of nonfinancial performance measures (Chenhall, 1997; Hoque, 2005; Hoque and James, 2000; Said et al., 2003). For instance, Hoque (2005) examined the fit between environmental uncertainty and the use of nonfinancial performance measures, while Said et al. (2003) examined the match between strategy and the use of nonfinancial performance measures. It has been argued that market orientation is a crucial contextual factor for management control systems (Cadez and Guilding, 2008; Guilding and McManus, 2002). Nevertheless, there is limited research evidence regarding the relationship between market orientation and the use of nonfinancial performance measures.

The Marketing literature has highlighted the significance of market orientation (Jaworski and Kohli, 1993; Narver and Slater, 1990; Pelham, 1997; Liao et al., 2011). Particularly, in today's competitive environment, Organisations are required be more market-oriented by offering products/services with superior value in order to sustain their competitive advantages (Jaworski and Kohli, 1993; Pelham, 1997; Walker et al., 2006; Wang, et al., 2012). The use of nonfinancial performance measures can facilitate market-oriented Organisations by providing useful information that helps Organisations to offer products/services to meet customers' needs and expectations (see Kaplan and Norton, 1996; 2001). This in turn may enhance organizational performance. Therefore, the present study argues that the use of nonfinancial performance measures plays a mediating (indirect) role in the relationship between market orientation and organizational performance. However, a review of the literature suggests that to date previous studies have not addressed this mediating role.

Previous studies on the use of nonfinancial performance measures have been widely examined in Western countries (Baines and Langfield-Smith, 2003; Chenhall, 1997; Hoque, 2005; Hoque and James, 2000). However, there has been little research evidence from Asian countries, especially Thailand (see Shutibhinyo, 2012). Thailand is one of the important emerging economies in Asia. Thailand is the 2nd largest economy in South-East Asia (Board of Investment, 2013). Over recent decades, the Thai Government has attempted to enhance trade liberalization by focusing on the privatization and deregulation of the economy (Ngamkroekjoti and Johri, 2000). It has also focused on promoting foreign direct investments (World Bank, 2012). With such efforts by the government, market competition has become more

intensified. Organisations have thus been forced to be more market-oriented. This therefore makes Thailand a good setting to examine how managers in market-oriented Organisations use nonfinancial performance measures to improve their organizational performance.

To contribute to the existing literature, the aim of this study is to investigate the mediating (indirect) effect of managerial use of nonfinancial performance measures in the relationship between market orientation and organizational performance. This involves the examination of the relationships between (a) market orientation and the use of nonfinancial performance measures, and (b) the use of nonfinancial performance measures and organizational performance. Figure 1 graphically demonstrates the model for this study. The present study examines the use of nonfinancial performance measures following Kaplan and Norton's balanced scorecard (1996; 2001; 2006). The use of nonfinancial performance measures is thus categorized into three perspectives: customer, internal business process, and learning and growth (human resource). The results of this study will provide a guideline for Organisations in designing an appropriate use of nonfinancial performance measures to improve their performance.

The remainder of the paper is organized as follows. In the next section, the study's hypothesis is developed. Section 3 describes the research method; Section 4 outlines the empirical findings. The discussion, conclusions and limitations are presented in Section 5.

HYPOTHESIS DEVELOPMENT

A performance measurement system is an important management control tool (Chenhall and Langfield-Smith, 2007). Organisations are required to align their systems with their context, i.e. organizational culture, in order to achieve their goals (Chapman, 1997; Chenhall, 2003). Market orientation is defined as an organizational culture that places emphasis on creating superior value for customers (Narver and Slater, 1990; Slater and Narver, 1995). To enhance customer value, market-oriented Organisations generally focus on building benefits (such as high quality products/services, and on-time delivery), while reducing customers' costs of acquisition and utilization (Narver and Slater, 1990).

A performance measurement system which focuses only on financial performance measures may not be sufficient for market-oriented Organisations. This is because financial performance measures such as return on investment (ROI) and profit margin are too aggregated, are historical and are focused on internal operations (Lynch and Cross, 1991; Malina and Selto, 2001; Simons, 2000; Verbeeten and Boons, 2009). These measures are not able to reflect on how well Organisations progress in their delivery of superior value for the current and future needs of customers (see Kaplan and Norton, 1992; 2001).

As Organisations become more market-oriented, managers may require more nonfinancial performance measures. This is because the use of nonfinancial performance measures allows managers in market-oriented Organisations to obtain useful information for their decision making as well as monitor factors driving superior value for customers (see Kaplan and Norton, 1992; 2001; van Veen-Dirks, 2010; Zimmerman, 2011). This can be explained as follows:

To provide superior customer value, market-oriented Organisations attempt to understand their customers, such as their needs and preferences (Narver et al., 2004). The use of nonfinancial measures from the customer perspective can provide companies with extra customer information. For instance, managers may use nonfinancial measures such as a customer satisfaction index and guest comment cards to identify the extent to which customers are satisfied with the value of their existing products/services in terms of quality, service and time (Kaplan and Norton, 1996). With a better understanding of their customers, market-oriented Organisations are able to design appropriate products/services that are tailored to the customers' needs and expectations (Dawes, 2000; Narver and Slater, 1990; Pelham, 1997; Pelham and Wilson, 1996).

In addition, market-oriented Organisations need an effective and efficient production process in order to offer high quality products/services to customers (Kaplan and Norton, 1992; 1996; 2001). The use of nonfinancial measures from the internal business process perspective (e.g. the failure (defect) rate and the time required to complete tasks) can help Organisations to monitor the competencies of their production process (Chenhall, 1997; Hoque, 2005). Organisations are able to identify any areas which increase

the cost of products but do not add value to customers (Ittner and Larcker, 1998b; Hoque, 2005). Managers can then find the root cause of the problem and take corrective actions in order to improve the performance of the production process (Chenhall, 1997; Mia, 2000; Nanni et al., 1990).

When a business environment becomes more competitive, customer needs change rapidly. Market-oriented Organisations need to be more innovative; they are required to develop or modify their products/services to meet changing needs (Ge and Ding, 2005; Jaworski and Kohli, 1993; Wang and Chung, In press). Managers may closely monitor nonfinancial performance measures, e.g. the time needed to market a new product and the number of new products/services, to ensure that Organisations can respond in a timely manner to the changing needs of customers (Hertenstein and Platt, 2000).

Further, it has been suggested that employees engaged in all functions within a market-oriented organization contribute to value creation for customers (Lings and Greenley, 2009; Slater and Narver, 1994). The competencies of employees are imperative for Organisations to improve customer value (Kaplan and Norton, 1996). By using nonfinancial measures from the learning and growth perspective, such as the level of employee capabilities, managers can monitor how well their employees perform as well as which employee skills need to be improved through training (Kaplan and Norton, 1996; 2004). This may enhance employee capabilities (McPhail et al., 2008), which in turn increases Organisations' ability to offer superior products/services to customers.

Consequently, the use of nonfinancial performance measures can help market-oriented Organisations to improve their core competencies (e.g. customer responsiveness, production process's efficiency and effectiveness, innovation, and human resource capabilities); the Organisations are thus able to offer superior value to fulfill customer needs and expectations. Accordingly, customers are more satisfied with the products/services (Jaworski and Kohli, 1993; 1996: Kohli and Jaworski, 1990; Pelham and Wilson, 1996; Singh and Ranchhod, 2004). They become more loyal to the products/service, and make more frequent purchases, leading to increased organizational performance (Lings and Greenley, 2009; Maydeu-Olivares and Lado, 2003; Pelham, 1997; Reichheld and Sasser, 1990).

Following the above discussion, as Organisations become more market-oriented, they are required to make greater use of nonfinancial performance measures to improve their ability to provide superior customer value. This results in greater organizational performance. Therefore, this study hypothesizes as follows.

Hypothesis: *The use of nonfinancial performance measures plays a mediating role in the relationship between market orientation and organizational performance.*

RESEARCH METHOD

The Sample

The World Tourism Organization (UNWTO) (2013) reported that the tourism industry has grown extensively over the last 20 years from 436 million international tourist arrivals in 1990 to 1,035 million in 2012. The tourism industry has significantly contributed to the world economy¹. It has been argued that hotels play a major role in the tourism industry (Auzair, 2011) and have generated considerable income for many countries around the world (UNWTO, 2013). In Thailand, the hotel industry has also been an important part of the country's economy². For these reasons, the hotel industry was selected to examine the model of this study.

Data were collected from departmental managers of medium to large hotels situated in thirteen provinces which are home to the top tourist destinations in Thailand. These provinces have had an average number of tourists (between the years 2008 and 2010) greater than one million people annually. Based on the database of the Ministry of Interior, there are 441 medium to large hotels located in these thirteen provinces. All of them were selected. Medium to large hotels refer to hotels having 100 bedrooms and above (Dimension Guide, n.d; Learn Hub, n.d.).

1 In 2012, the tourism industry generated 9% of global GDP; the receipts from international tourism were over US\$ 1 billion (UNWTO, 2013).

2 In 2012, the hotel and restaurant industry was accounted for approximately 5% of Thailand's GDP (Office of the National Economic and Social Development Board, 2013), and it also created over 2.3 million jobs (Bank of Thailand, 2013).

Data Collection

Data were collected using a questionnaire survey. A questionnaire was pre-tested in a pilot study. The participants in the pilot study included three academics and three departmental managers. These departmental managers were not included in the sample used in the survey. The final version of the questionnaire was prepared by incorporating the comments and suggestions from the pilot study.

A questionnaire package comprising of 1) a cover letter, explaining the purposes of the study and the confidentiality of the respondents, and 2) a reply-paid envelope, was sent to the front office manager and food and beverage manager of each hotel. Two weeks after sending the questionnaire packages, telephone calls were made to make sure that the managers had received the packages and to explain to the participants briefly about the objectives of the study. Additional questionnaire packages were forwarded to those who had misplaced the original questionnaire package. The front office managers and the food and beverage managers were selected because they handle the departments that are crucial for hotels in generating income.

A total of 205 questionnaires were completed and returned. Two of the completed questionnaires were dropped, as they were univariate outliers, making 203 usable for data analysis (23.02% response rate). The majority of the respondents held a Bachelors degree (approximately 55%). Table 1 presents the demographic details of the hotels.

Table 1.0: Demographic details of the hotels

Hotel		N	%
Number of employees	≤ 100 employees	64	31.5
	101-200 employees	55	27.1
	201-300 employees	27	13.3
	301-400 employees	24	11.8
	401-500 employees	14	6.9
	≥ 501 employees	19	9.4
Number of bedrooms	100 - 299 rooms	133	65.5
	300 - 499 rooms	52	25.6
	500 - 699 rooms	11	5.4
	700 - 899 rooms	5	2.5
	≥ 900 rooms	2	1.0

Measurement of Variables

Market Orientation

The instrument for measuring market orientation was adapted from Guilding and McManus (2002) and Cadez and Guilding (2008). The departmental managers were asked to indicate the level of their disagreement or agreement, using a five-point Likert scale ranging from 1 “strongly disagree” to 5 “strongly agree”, with the following statements: (1) my hotel has a strong understanding of our customers, (2) functions in my hotel work closely together to create superior value for our customers, (3) management in my organization think in terms of serving the needs of markets chosen for their long-term growth and profit potential for the hotel, and (4) my hotel has a strong market orientation Market orientation was determined by the average of the scores for the four items on the instrument. The reliability of this instrument was tested using Cronbach alpha. A check of reliability test yielded a Cronbach’s Alpha of 0.762. To test the construct validity of this instrument, a factor analysis was performed. The factor analysis yielded one factor extracted with eigenvalue greater than one, suggesting that this instrument was unidimensional and this factor accounted for 59.066% of the variance. The factor loadings for each item were 0.762, 0.823, 0.850, and 0.618, respectively. Descriptive statistics for this variable are presented in Table 2.

Table 2.0: Descriptive statistics and correlation coefficients

Variable	Actual Range	Mean	Std.dev	X ₁	X _{2a}	X _{2b}	X _{2c}	X ₃
X ₁ Market orientation	2.00 - 5.00	4.06	0.64	1.000				
X _{2a} The customer perspective	2.33 - 5.00	3.71	0.62	.329*	1.000			
X _{2b} The internal business process perspective	1.60 - 5.00	3.47	0.64	.432*	.689*	1.000		
X _{2c} The learning and growth perspective	1.60 - 5.00	3.32	0.70	.389*	.624*	.651*	1.000	
X ₃ Organizational performance	2.00 – 4.83	3.37	0.54	.447*	.425*	.451*	.486*	1.000

* Correlation is significant at the .01 level (2-tailed)

Use of nonfinancial performance measures

Following Kaplan and Norton's balanced scorecard concept, the use of nonfinancial performance measures was classified into three perspectives: (1) customer, (2) internal business process, and (3) learning and growth (human resource). The instruments for measuring these three perspectives were developed based on previous studies, i.e. Banker et al. (2000, 2005), Denton and White (2000), Evans (2005), Haktanir and Harris (2005), Huckestein and Duboff (1999), and Phillips and Louvieris (2005). Using a five-point Likert scale ranging from 1 "little" to 5 "a great extent" the departmental managers were asked to indicate the extent to which they use each item to measure departmental performance.

The Customer Perspective

The instrument for measuring the customer perspective included six items:

1. customer satisfaction,
2. the number of returning guests,
3. the number of customer complaints,
4. market share,
5. mystery guests, and
6. occupancy rate.

The customer perspective was determined by the average of the scores for the six items on the instrument. A reliability test produced a Cronbach's alpha coefficient of 0.792. A factor analysis was conducted. One factor was extracted and accounted for 51.087% of the variance. This factor had item factor loadings of 0.802, 0.675, 0.685, 0.730, 0.669, and 0.719, respectively. Descriptive statistics for the variable are presented in Table 2.

The Internal Business Process Perspective

The items in this instrument were 1) product/service quality, 2) the maintenance of physical assets, 3) the time required to complete key tasks, 4) the number of new products, and 5) salary and wages as a percentage of revenue. The internal business process perspective was determined by the average of the scores for the above five items of the instrument. A factor analysis of these five items was conducted and yielded one factor with an eigenvalue greater than one. This factor had an explained variance of 51.918%. This factor had item factor loadings of 0.790, 0.731, 0.659,

0.724, and 0.691, respectively. Cronbach's alpha coefficient for these five items was 0.765. Table 2 shows the descriptive statistics for this variable.

The Learning and Growth Perspective

The instrument for measuring the learning and growth perspective included five items 1) the training hours/training courses completed, 2) employee multiskilling, 3) employee satisfaction, 4) employee appraisals, and 5) the number of employee suggestions. A factor analysis performance on these five items revealed one factor with an eigenvalue greater than one and an explained variance of 62.428%. The factor loadings for each item were 0.816, 0.811, 0.843, 0.772, and 0.701, respectively. Cronbach's alpha coefficient for the five items was 0.844. The analysis indicated that the construct was unidimensional and reliable. Table 2 demonstrates the descriptive statistics for this variable.

Organizational Performance

The instrument used to measure organizational performance was adapted by Hoque and James (2000). The departmental managers were asked to indicate their hotels' performance on six items relative to those of their competitors on a five-point Likert scale ranging from 1 (lower) to 5 (higher). These six items were 1) margin on sales, 2) capacity utilization, 3) customer satisfaction, 4) service quality, 5) the development of new services/products, and 6) market share. The score for the performance was the average of the sum of the scores for each of the six items. The Cronbach's alpha coefficient for these six items was 0.791. A factor analysis was performed on these six items revealed a single factor with an eigenvalue greater than one. The factor loadings for each item were 0.745, 0.640, 0.717, 0.741, 0.677, and 0.687, respectively. The variable's descriptive statistics are presented in Table 2.

THE RESULTS

Table 2 presents the descriptive statistics and correlation coefficients between the variables. A path analysis was performed to test the mediating (indirect) effect of the use of nonfinancial performance measures in the relationship between market orientation and organizational performance (see Pedhazur, 1997). This involved examining the relationships between

- (a) market orientation and the use of nonfinancial performance measures, and
- (b) the use of nonfinancial performance measures and organizational performance.

The path analysis was used to test the regression equations below:

$$X_2 = P_{21}X_1 + P_{2u}R_u \quad (1)$$

$$X_3 = P_{31}X_1 + P_{32}X_2 + P_{3v}R_v \quad (2)$$

where: X_1 = market orientation,

X_2 = the use of nonfinancial performance measures:

X_{2a} = the customer perspective,

X_{2b} = the internal business process perspective,

X_{2c} = the learning and growth perspective,

X_3 = organizational performance,

P_{ij} = path coefficients (standardized beta coefficients, β),

R_n = standardized residuals (unexplained variance associated with the variables).

The path analysis involved the test of regression analysis. Thus, the assumptions of the regression analysis were examined. This study found that the assumptions (i.e. adequacy of sample size, absence of multi-collinearity, normality, linearity, homoscedasticity and independence of errors) (see Hair et al., 2010; Tabachnick and Fidell, 2001) were not violated. However, there were two cases indicated as univariate outliers because they had a standardized score (Z score) on market orientation greater than 3.29. To avoid the violation of the assumption of absence of outlier, these two cases were deleted from the study.

Regression equation 1 treated the use of nonfinancial performance measures (X_2) in each perspective as a dependent variable and market orientation (X_1) as an independent variable. The second regression equation treated organizational performance (X_3) as a dependent variable and market orientation (X_1) and the use of nonfinancial performance measures (X_2) as independent variables. By using the results of the two regression equations, the magnitude of the indirect effect of market orientation on organizational performance through the use of nonfinancial performance measures in each perspective was then calculated (see Table 6).

Table 3.0: Results of Regression: Indirect effect through the customer perspective

Variables	Path coefficient	Coefficient value (β)	t-value	p-value
Equation 1: $X_{2a} = P_{21}X_1 + P_{2u}R_u$				
X ₁ Market orientation	P _{2a1}	.329	4.936	.000
Dependent variable: the customer perspective R ² =10.8%; Adjusted R ² = 10.4%; F _(1,201) = 24.368; p < .001; n = 203				
Equation 2: $X_3 = P_{31}X_1 + P_{32}X_{2a} + P_{3v}R_v$				
X ₁ Market orientation	P ₃₁	.344	5.447	.000
X ₂ The customer perspective	P _{32a}	.312	4.932	.000
Dependent variable: organizational performance (X ₃). R ² =28.7%; Adjusted R ² = 27.9%; F _(2,200) = 40.174; p < .001; n = 203				

The results presented in Table 3 revealed that market orientation was significantly associated with the use of the customer perspective (P_{2a1} = 0.329, t-value = 4.936, p < 0.001); the customer perspective was significantly related to organizational performance (P_{32a} = 0.312, t-value = 4.932, p < 0.001). Thus, the mediating effect through the customer perspective was significant. Hair et al. (2010) suggests that if the magnitude of the mediating (indirect) effect is greater than 0.08, the mediating (indirect) effect is considered as being meaningful. As presented in Table 6, the magnitude of the mediating (indirect) effect through the customer perspective was 0.103 (P_{32a} * P_{2a1}), and therefore considered meaningful.

Table 4.0: Results of Regression: Indirect effect through the internal business process perspective

Variables	Path coefficient	Coefficientvalue (β)	t-value	p-value
Equation 1: $X_{2b} = P_{2b1}X_1 + P_{2bu}R_u$				
X ₁ Market orientation	P _{2b1}	.432	6.790	.000
Dependent variable: the internal business process perspective (X _{2b}). R ² =18.7%; Adjusted R ² = 18.3%; F _(1,201) = 46.105; p < .001; n = 203				
Equation 2: $X_3 = P_{31}X_1 + P_{32b}X_{2b} + P_{3v}R_v$				
X ₁ Market orientation	P ₃₁	.310	4.665	.000
X _{2b} The internal business process perspective	P _{32b}	.317	4.775	.000
Dependent variable: organizational performance (X ₃). R ² =28.2%; Adjusted R ² = 27.5%; F _(2,200) = 39.225; p < .001; n = 203				

The results presented in Table 4 indicated that the effect of market orientation on the internal business process perspective ($P_{2b1} = 0.432$, t-value = 6.790, $p < .001$) and the effect of such use on organizational performance ($P_{32b} = 0.317$, t-value = 4.775, $p < .001$) were positive and significant. The mediating (indirect) effect of market orientation on organizational performance through the internal business process perspective ($P_{32b} * P_{2b1} = 0.137$), as presented in Table 6, was significant and considered meaningful.

Table 5.0: Results of Regression: Indirect effect through the learning and growth perspective

Variables	Path coefficient	Coefficient value (β)	t-value	p-value
Equation 1: $X_{2c} = P_{2c1}X_1 + P_{2cu}R_u$				
X_1 Market orientation	P_{2c1}	.389	5.982	.000
Dependent variable: the use of learning and growth (X_{2c}). $R^2 = 15.1\%$; Adjusted $R^2 = 14.7\%$; $F_{(1,201)} = 35.789$; $p < .001$; $n = 203$				
Equation 2: $X_3 = P_{31}X_1 + P_{32c}X_{2c} + P_{3v}R_v$				
X_1 Market orientation	P_{31}	.304	4.787	.000
X_{2c} The learning and growth perspective	P_{32c}	.367	5.783	.000
Dependent variable: organizational performance (X_3). $R^2 = 31.4\%$; Adjusted $R^2 = 30.8\%$; $F_{(2,200)} = 45.873$; $p < .001$; $n = 203$				

Based on the results in Table 5, the relationships between (a) market orientation and the learning and growth perspective ($P_{2c1} = 0.389$, t-value = 5.982, $p < .001$), and (b) the learning and growth perspective and organizational performance ($P_{32c} = 0.367$, t-value = 5.783, $p < .001$) were both positive and significant. Thus, the learning and growth perspective has a significant mediating (indirect) effect on the relationship between market orientation and organizational performance. The computation in Table 6 indicates that the magnitude of the mediating (indirect) effect through the learning and growth perspective is 0.143 ($P_{32c} * P_{2c1}$), which is considered meaningful.

Table 6.0: The decomposition of the direct and indirect effects of market orientation on organizational performance through each of the three perspectives of nonfinancial performance measures

Path linkage	Indirect effect through	Direct effects	Indirect effects	Type of mediation
X_3 with X_1	Customer perspective	P_{31} .344	$P_{32a} * P_{2a1}$.312*.329=.103	Partial
X_3 with X_1	Internal business process perspective	P_{31} .310	$P_{32b} * P_{2b1}$.317*.432=.137	Partial
X_3 with X_1	Learning and growth perspective	P_{31} .304	$P_{32c} * P_{2c1}$.367*.389=.143	Partial

Following the above results, it can be concluded that the use of nonfinancial performance measures in each perspective plays a mediating role in the relationship between market orientation and organizational performance. Therefore, the proposed hypothesis was supported.

The present study also further examined the type of mediation. According to Baron and Kenny (1986), after controlling the mediator (the use of nonfinancial performance measures), the relationship between the predictor (market orientation) and outcome (organizational performance) must be decreased. If the predictor (market orientation) is not significant, full mediation is obtained. However, if the predictor (market orientation) remains significant, partial mediation is obtained. The results in Tables III, IV and V, indicate that after controlling for the effect of the use of the nonfinancial performance measures in each perspective (customer, internal business process, and learning and growth, respectively), the relationship between market orientation (predictor) and organizational performance (outcome) has been decreased. In addition, such relationship remains significant (P_{31}). Therefore, the use of nonfinancial performance measures in each perspective plays a partial mediating role in the relationship between market orientation and organizational performance (see Table 6).

DISCUSSION

The objective of the present study sought to examine the mediating (indirect) role of the use of nonfinancial performance measures in the relationship between market orientation and organizational performance. The results

revealed that market orientation was positively and significantly related to the use of nonfinancial performance measures in each perspective. The use of nonfinancial performance measures in each perspective was positively and significantly associated with organizational performance. Therefore, as predicted, the use of nonfinancial performance measures has a mediating effect in the relationship between market orientation and organizational performance. The results of this study support the contingency-based research that Organisations should design their management control systems to suit the context (organization culture of market orientation) in order to enhance performance (Chapman, 1997; Chenhall, 2003).

The present study extends on prior research by providing an understanding of how the use of nonfinancial performance measures can help market-oriented Organisations to improve their performance. The results of this study have revealed that as Organisations become more market-oriented; their managers may require greater use of nonfinancial performance measures to help them gain a greater understanding of customers. The managers can also use nonfinancial performance measures to monitor their progress in improving the factors (e.g. efficient production process, competencies of employees, product/service innovation) that drive customer value (Hoque 2005; Kaplan and Norton, 1992; 1996; 2001; Malina and Selto, 2001). Organisations are then able to offer superior value to meet customer needs and expectations, leading to improved organizational performance (Jaworski and Kohli, 1993; 1996; Kohli and Jaworski, 1990; Pelham and Wilson, 1996). In particular, over the past two decades, business environment in Thailand has been more competitive due to globalization and the deregulation of the economy. To sustain competitive advantages in such an environment, Organisations in Thailand tend to be market-oriented in order to provide products and services to meet the changing needs and expectations of customers. Therefore, they may need to place a greater reliance on nonfinancial performance measures in order to enhance their performance.

The further analysis on the types of mediation indicates that the use of nonfinancial performance measures has a *partial* mediating effect in the relationship between market orientation and organizational performance (see Table 6). This can be explained by a strong direct relationship between market orientation and organizational performance (see Table 6) that undermines the mediating (indirect) effect of the use of nonfinancial

performance measures. The results of such a strong direct relationship indicate that for Organisations in Thailand, market orientation is an important determinant of organizational effectiveness. This is consistent with the findings of previous studies in well-developed Western countries (e.g. Jaworski and Kohli, 1993; Narver and Slater, 1990; Pelham, 2000; Pelham and Wilson, 1996; Slater and Narver, 2000).

There are at least three limitations to the present study. First, this study collected data from the hotel industry. The characteristics of the hotel industry (e.g. perishable of goods and a rapid change in customer demands) may differ from those of the manufacturing industry (Fitzgerald et al., 1991; Harris and Brander Brown, 1998). Also, the extent of market orientation and the use of nonfinancial performance measures in the hotel industry may differ from those in manufacturing industries. The examination of the model of this study in the manufacturing industry may lead to further understanding of the issues under investigation. Second, the present study is a cross-sectional study. The consequences of market orientation and the use of nonfinancial performance measures on organizational performance may take a longer time to occur. A longitudinal study may further explain such consequences. Third, the present study focuses on the use of nonfinancial performance measures under conditions of market orientation only. There may be other contexts (contextual variables) such as strategy and organizational structure that may require the use of nonfinancial performance measures.

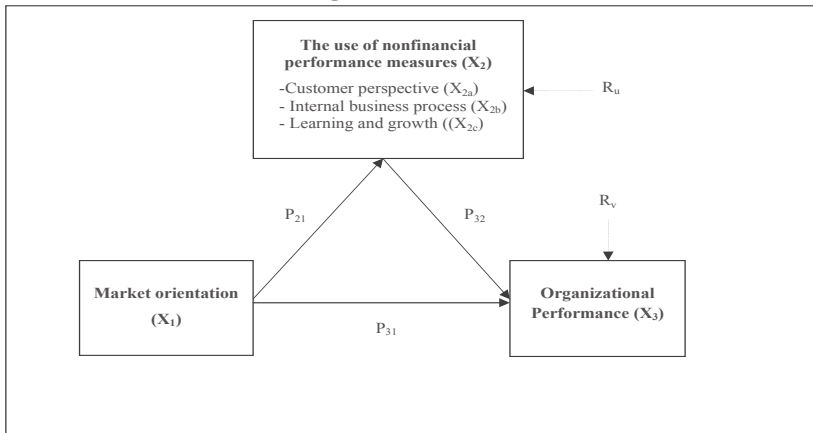


Figure 1.0: The model

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