

The Impact of Design Innovativeness on the Profitability of Housing Developers in Malaysia

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Abstract: This study focuses on the housing developers in Peninsular Malaysia from a strategic management perspective in an attempt to find out (i) how well those housing developers are performing financially, (ii) to what extent those developers are innovative in terms of house design and (iii) whether there is any correlation between house design innovativeness as a strategy and profitability. The findings of this study are based on the responses obtained from a cross-sectional survey of 103 housing developers in Peninsular Malaysia. The findings of the study showed that the housing developers are not that innovative in terms of house design, especially when the houses built are low-cost units. The findings also showed that the housing developers in Peninsular Malaysia have been doing well in terms of profitability, which was measured by the Business Performance Composite Index (BPCI). The findings also showed that house design innovativeness is positively correlated with profitability. Overall, this study showed that housing developers who apply house design innovativeness tend to be more profitable and hence this study suggests that the housing developers in Peninsular Malaysia should take the aspect of house design into account as it plays an important role in their profitability.

Key words: House design innovativeness • Housing projects profitability • Housing developers in Malaysia

INTRODUCTION

The strategic management literature emphasizes the importance of business strategy in both large and small firms [1, 2]. Firms use business strategy to outline the fundamental steps that they plan to follow in order to accomplish their objectives. The literature indicates that organizations can have a single strategy or many strategies and that these strategies are likely to exist at three levels: corporate level (such as grand and master strategies); business level such as (competitive strategies); and functional level strategies. Although the literature suggests that strategies are developed at the three different levels, theoretical and empirical studies of the relationship between strategy and organizational performance have mainly emphasized on business strategy [3].

The role of innovation in enhancing competitive advantage is central to the concept of differentiation strategy [4] and the impact of innovation on business performance has been demonstrated in a number of studies in this area [5, 6, 7].

In Malaysia, the housing developers have been called for innovative designs. The housing developers in Malaysia are encouraged by the Malaysian government to be innovative in their designs. The Malaysian Housing and Local Government Minister reflected the government's interest in having innovative-designed houses. He mentioned that developers should come up with creative designs in order to attract successful businessman, professionals, Malaysians who have returned home from abroad and foreigners who took part in the Malaysia My Second Home Program. He added that: *"Developers need to take a long-term view in terms*

of property sales to attract people in their 20s and 30s, who are ready to buy property” [8]. This shows that the concern for innovation in the housing industry in Malaysia is noticed and encouraged.

The Malaysian housing developers should adapt to changes in order to survive in the industry. Through a successful business strategy, developers should be able to renew their products otherwise their survival will be at a risk [9, 10].

There is a general consensus that the housing industry worldwide is currently suffers from lack of innovation. Many have argued that this is due to the nature of the housing industry itself, which impedes the pace of innovation [11]. The use of sub-contractors makes it difficult to develop innovations in a proprietary way [12]. The decentralized decision-making and informal coordination are claimed to have prevented all systematic optimization and innovative evolution [13]. The other argument which some consider as one of the major barriers to convince developers to be innovative is that there is no clear relationship between innovativeness and performance or profitability. Even worse, some claim that innovation posed potential threats to the industrial viability [14].

This paper mainly looks into the relationship between house design innovativeness and profitability of the housing developers in Peninsular Malaysia.

Literature Review

Importance of Innovation: The advantages of being innovative have been depicted by many. Innovation is said to have close relationship with economic growth. When the levels of innovation in the construction industry is high, the likelihood that the contribution of such industry to the economic growth will also be high [15]. For example, manufacturers claim that a steel framed house can be completed in 5 weeks, compared to 8-10 weeks that completing an equivalent traditionally-built house takes. Timber frame producers claim that timber frames are beneficial. Innovation in floor joist systems allows much greater spans. Moreover, the use of concrete flooring, which is common in many European countries, is said to increase space flexibility as well as to improve sound and thermal insulation. In addition, in brick and block construction, there have been developments which can improve productivity. Larger lightweight concrete blocks, for instance, have improved their own ease of being handled. New mortars make house builders rapidly build to full height since the lower layers of blocks set much faster [16].

Innovativeness is a critical determinant of business performance [14]. Provided that firms possess a capacity to innovate, the capacity will allow those firms to develop a competitive advantage, enabling them to derive outcomes from it [17, 18, 19].

House Design Innovativeness: Intrinsically, design has been linked with innovation and is also seen as the core of innovation [20, 21]. *“The moment when a new object is imagined, devised and shaped in prototype form”* [3]. Hence, a clearer picture of the term *“design”* requires the understanding what really constitutes research and development, since R&D activities play the fundamental role in the innovation process.

The importance of *“design”* for firms to gain a competitive advantage over their competitors has been stressed by many authors. Competition itself forces firms to find new ways to compete and be innovative in order to differentiate themselves from the other players in the market. In 1998, for example, Robert H. Hayes, at that time professor at the Harvard Business School already realized: “15 years ago companies competed on price. Now it’s quality. Tomorrow it’s design” [22]. One of the leaders in the field of marketing even proclaims that *“design is the factor that will often give a company its competitive edge”* [23].

Creative design more and more comes to the fore and many companies believe that superior design will be the key to winning customers. Especially in mature markets where technological developments only lead to marginal improvements to the consumer and also in low-tech markets, design plays a fundamental role. It has the ability to create corporate distinctiveness and also possesses the potential to give a mature product a new look. Thus, design helps to move away from the pure price competition by creating and strengthening of brands and identities [24].

Innovation and Performance: As per the relationship between innovation and performance, Wolff (1994) stated that firms vary in the amount of inputs they devote to the innovation process. However, the dedication of more inputs to the innovation process does not guarantee innovation outcomes since the process of developing innovation is complex and characterized by high risks. Moreover if firms devote substantial resources to the innovation process, but are unable to turn them into innovative offerings, resources are squandered and firm performance suffers [25]. Thus, is it necessary for housing developers in Malaysia to be innovative in order for them

to sustain their profitability? Is it necessary to be innovative if innovation can experience failure, which will make innovators incur losses and hurt their image in the market? There is inconsistency in the literature regarding whether innovation leads to better performance or not. This study tries to bridge such a gap.

Financial Performance: Previous research had used many variables to measure organizational performance. These variables include profitability, gross profit, return on asset (ROA), return on investment (ROI), return on equity (ROE), return on sale (ROS), revenue growth, market share, stock price, sales growth, export growth, liquidity and operational efficiency [26-31].

Profitability was argued to be the most common measurement used for organizational performance in business organizations [32]. Other researchers such as Galbraith and Schendel (1983) [26] supported the use of return on assets (ROA), return on equity (ROE) and profit margin as the most common measures of performance. Return on Assets (ROA) is derived by dividing net income of the fiscal year with total assets. Return on Equity (ROE) means the amount of net income returned as a percentage of shareholders equity. It measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

Firms' performance is widely measured through the financial success of the organization. Financial stress for most profit-oriented firms can be assessed both in terms of "top-line" (e.g., sales) as well as "bottom-line" (e.g., profitability) measures [33].

Organizational Innovativeness and Performance: Most studies seem to agree that innovation gives more benefits to the organization. Gaining market share and gaining a competitive advantage over competitors are examples of the benefits of innovation/innovativeness. Marketing theorists have shown that over a broad cross section of industries, organizations that emphasize innovation speed, gain market share [34].

Gains in market share are generally associated with higher revenues and higher profitability. Strategy theorists also assert that such organizations, which we call early adopters, are able to erect "isolating mechanisms" because the knowledge contained in these innovations is not readily available to competitors (Lieberman & Montgomery, 1988). These differentiating mechanisms protect profit margins, which could result in significant financial benefits for early adopters. In case of

product innovations, for example, the isolating mechanism is reacted as a result of customer loyalty [29] – customers may experience switching costs when they move to the product that is introduced later.

The centrality of innovation in the growth process reflects two factors. First, innovation is a 'good' with special features which means that its benefits are likely to be dispersed throughout the economy. Second, the fact that the stock of knowledge underlying technologies and processes accumulates over time. The growing recognition of innovation as the root of economic prosperity has made policymakers increasingly keen to understand the process of innovation and what drives it [8].

The competitive pressures on firms increase and hence the need to continuously adapt, develop and innovate has become a basic building block for organizational excellence. They believe that in a dynamic environment, an inability to innovate eventually causes businesses to stagnate, decline and to go out of business [35]. Organizations that opt for innovation have a competitive advantage if they come up with new ideas and create services and products that are, at least partly, unique [36].

There has been a considerable attention to innovation, which was looked at as playing a crucial role in securing sustainable competitive advantage. In order to compete in an ever-changing environment, companies must create new products, services and processes. They must adopt innovation as a way of life [37]. Innovative companies are especially adroit at continually responding to change of any sort in their environments and are characterized by creative people developing new products and services. Both of these definitions make reference to the terms change and creativity - they imply that innovation is the harnessing of creative ability within individuals and the workforce in response to change [38].

If it is generally agreed that both innovation speed and innovation magnitude have a positive effect on firm performance, the specifics of the relationships still require explication. One way of developing a more specific rubric for comparing speed and magnitude is to unbundle the notion of firm performance. As for the impact of innovation on the performance of companies in Asia compared to the U.S., the innovation-performance relationship is lowest for companies based in highly individualistic countries such as the U.S. while the greatest positive impact of innovation on performance is found in Asian countries [25].

Design and Performance: Design and its contribution to product development and business performance has recently attracted attention among academics and professionals [39, 4, 40, 3]. More and more companies have been raising their budgets for design and included external design consulting firms like e.g. IDEO, Fuseproject, Zipa or Whipsaw2 in their product development process. Design budgets of European and American firms have been growing between 8 and 20 percent per year in the recent past [39].

Design may be seen as one of several key factors contributing to new product development along with research and development (R&D), marketing, manufacturing, purchasing, etc [40]. As early as in 1984, Kotler and Rath have already emphasized that *“design is a potent strategic tool that companies can use to gain a sustainable competitive advantage, yet most companies neglect design as a strategic tool. What they don’t realize is that good design can enhance products, environment, communications and corporate identity”*. Designers have an important contribution to make to the innovation process. If innovation is the goal of a company then design is an essential component in realizing this entrepreneurial objective [41]. Even for industrial products, aesthetics affect a customer’s product preference [7]. Several studies have already dealt with the impact of design on company performance or innovation outcome [39, 4, 40, 3]; however, they did not specifically link design to collaborative or externally sourced innovation.

The Theoretical Framework: The theoretical framework of this study is underlined by the Resource-Based Theory / the Resource-Based View (RBV). This underlying theory of research is used because house design innovativeness as a strategy is considered as a resource that the housing developers can utilize to perform better. Based on the literature discussed above, the following theoretical framework is proposed.

In order to test the proposed relationships between the independent variable (house design innovativeness) and the dependent variable (profitability), the following hypothesis has been developed:

H1: House Design Innovativeness Has a Positive Relationship with Profitability of the Housing Developers

Methodology: The research design of this study employed a primary data approach utilizing a set of structured questions formatted in ratio and interval scales. It is a cross-sectional study whereby data were gathered once from the survey. The cross-sectional survey was carried out to obtain quantitative data for statistical testing of the hypotheses. The survey was conducted using mail questionnaires as well as self-administered ones. Mail questionnaire method was employed in this study because of its advantage of covering wide geographical area with less time and cost [42]. A Survey through personally administered questionnaire was executed on the housing developers listed in the Real Estate Housing Developers Agency (REHDA) in Malaysia (2005/2006). The 2005/2006 directorate was chosen because this study targeted the REHDA members in the years 2006-2008.

The sample size of this current study was 103 developers out of 954 distributed questionnaires. The 103 questionnaires in this study were collected from the states of Selangor, Penang, Kedah, Kelantan, Perak, Kuala Lumpur, Melaka and Terengganu. Self-administered approach was used in collecting data from Penang and Kedah while for the rest of the states, a questionnaire was posted and e-mailed.

The data was analyzed using SPSS software (version 18) and the results are provided in the next sub-section. Factor analysis, reliability, frequency and regression analyses were carried out to achieve the objective of this study. The financial measurement of the performance of the housing developers in this study was profitability [34, 44, 45, 46, 1, 6, 47] The respondents (CEO/project manager) were asked to evaluate their firms’ performance

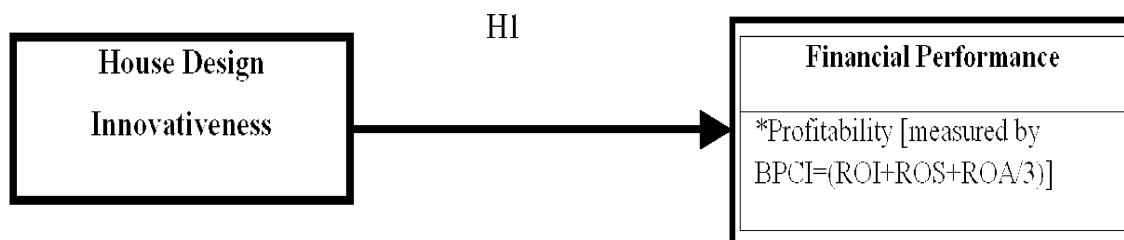


Fig. 1: Theoretical Framework

using the financial information of their profitability by asking them to provide a percentage of their ROI, ROA and ROS. In cases where comparisons of cross-industry organizational performance are influenced by external economic factors, subjective evaluations may be more appropriate than objective measures [48].

Profitability was measured using Business Performance Composite Index (BPCI) similar to the measurement used by Hashim (2004) [31]. BPCI is derived from the mean values (in percentage) of return on sales (ROS), return on investment (ROI) and return on asset (ROA). Hence, BPCI is formulated as: $BPCI = (ROS + ROI + ROA) / 3$. The three financial ratios-ROS, ROA and ROI-are the complete measures of firm's profitability and are based on the figures achieved by the housing developers during the three years (2006, 2007 and 2008). This justifies their inclusion as the main components of the BPCI. Furthermore, the inclusion of the three financial ratios as BPCI will provide a comprehensive and fair view of the firm's financial performance as compared to using only one measurement such as ROS or ROA or ROI. The definitions for each of the components in BPCI are briefly discussed here. ROS is derived by dividing net income of the fiscal year with total sales. ROI is derived by dividing net income of the fiscal year with debt and equity. ROA is derived by dividing net income of the fiscal year with total assets.

Pilot Study: The questionnaire items were firstly pre-tested for face validity among seven academicians in Universiti Sains Malaysia (USM) and 2 managers in the housing industry. The academicians include three architects who hold bachelor and master's degrees in architecture and who have had more than 10 years of experience in the housing industry and two associate professors who have been lecturing in school of housing, building and planning for more than 8 years; the other two participants in the pre-testing process were two project managers who obtained first degrees in housing. The respondents were asked to evaluate the items for readability, clearness of words and general adequacy of the items for the concepts measured. The academicians suggested some changes to the wording of some questions, especially the questions measuring house design innovativeness, but generally commented that the questions were clear and covered most of the elements of the concepts. For example, the answers to the questions given by the 7 respondents in the pre-testing of the questionnaire and the 10 managers were used for the

reliability of the measures. Although the small number of respondents may not give accurate result, it can give general idea about the consistency of the measures.

Data Analysis: For the purpose of data analysis, several statistical analyses were conducted by the Statistical Package for Social Sciences (SPSS) for Windows software (version 18). In this study, four major statistical analyses were employed: Factor and reliability analyses, descriptive statistics analysis, correlation analysis and hierarchical regression analysis.

RESULTS AND DISCUSSION

The majority (89.5%) of the developers who participated in this study were of small and medium size. As for the major ownership, the majority (65%) of them were owned by Chinese. As for the percentage of houses built per year, the majority of the housing developers were mainly developing houses. The majority of them (42.7%) built houses only. However, the rest of the developers built some other properties besides houses. Other properties included shops, offices, commercial buildings, condos, construction works, other buildings and infrastructure works. Factor analysis, reliability analysis, correlation and regression analyses were conducted.

Factor Analysis-House Design Innovativeness (Independent Variable): House Design Innovativeness was measured using five items adapted from Covin and Slevin (1989) [15] and Hurley and Hult (1998) [19]. These items were modified to suit the purpose of the study. Items (1, 2, 3 and 4 in the original questionnaire) were improved from Covin and Slevin (1989) [49] who used innovation as one of the three dimensions of entrepreneurial strategic posture namely risk-taking, innovation and proactiveness. Item 5 was modified based on one of five items that Hurely and Hult (1998) [19] used to measure innovativeness.

Factor analysis was run on the five items that were to measure the construct "House design innovativeness", the independent variable in this study. All five items were extracted in only one factor as shown in Table 1 above. KMO measure of sampling adequacy was 0.823.

Reliability Coefficients for the Major Variables: Table 1 also depicts the construct of house design innovativeness with its respective Cronbach's alpha coefficients. The values of alpha range from 0 to 1 and

Table 1: Results of the factor Analysis- House design innovativeness (Independent Variable)

No.	Item (as in the questionnaire)	Component
		1
1	In general, my company favors a strong emphasis on the marketing of previously TRIED designs. (R)	.762
2	In general, my company favors a strong emphasis on the marketing of INNOVATIVE and NEW designs.	.825
3	Since the last five years, my company introduced at least one NEW design.	.735
4	Since the last five years, changes in the design of the houses we build have been dramatic.	.647
5	In my company, new and innovative designs are accepted.	.869
	Eigenvalue (5)	
	Percentage of Variance (99.9)	
	Extraction Method: Principal Component AnalysisRotation Method: Varimax with Kaiser Normalization KMO for MSA: 0.823	
	Cronch Alpha (Reliability)	.828

Table 2: Descriptive Statistics of Two Main Constructs (N=103)

Construct	Dimensions	Scale	No. of items	Mean	Standard Deviation
House design innovativeness	Profitability (Business Performance	7-point Likert	5	4.34	1.13
Organizational Performance	Composite Index: Average 3 years)	Percentile	3	24.82	21.06

Table 3: Descriptive Statistics of Profitability

Organizational Profitability (BPCI)	Frequency	Percentage (%)
1% to 9.67%	16	15.5
10% to 12.89%	13	12.6
13% to 14%	16	15.5
+14 % to 17	11	10.7
18% to 22%	17	16.5
24 % 39%	10	9.7
41% 59%	10	9.7
61% to 79%	7	6.8
81% to 97%	3	2.9

if the value is nearer to 1, the reliability becomes stronger. A Cronbach's alpha coefficient of 0.5 and above is an acceptable minimum value for exploratory research [50]. Hence, the coefficient alpha scored by house design innovativeness (the independent variable) in the present study had duly satisfied the minimum requirements.

Descriptive Analysis: Having completed the validation and reliability procedures in the factor and reliability analyses, the retained items were aggregated into a collective sum to represent the principal constructs for the current study. Descriptive statistics for all the principal constructs were obtained. Mean scores and standard deviations were used respectively to evaluate central tendency and variance from the mean. Mean scores are computed by equally weighting the mean of all items in each construct. Table 2 shows the descriptive analysis of the two main constructs of this study.

There are 103 valid cases – 103 housing developers-being analyzed for all the variables. On a seven-point Likert scale, the mean (M) score for house design innovativeness is 4.34 (M=4.34) with a standard deviation

(SD =1.13) while the mean score (M) for profitability was 24.82% with a standard deviation of 21.06. This shows that the housing developers are not that innovative in terms of design. However, they are making profit. Table 3 shows the descriptive statistics of profitability.

As for the financial performance of the 103 housing developers, the statistical data pertaining to the BPCI of the 103 housing developers showed that the majority of the housing developers (17 in number) with a percentage of (16.5%) recorded 18% to 22% profitability. Table 4 reflects the BPCI ratios for the whole sample of 103 developers in the years 2006-2008. It shows that the housing developers have been making a noticeably good profit.

Correlation Analysis: In the earlier discussion, the researcher had identified the nature of the independent variable namely: (house design innovativeness), which consists of five dimensions and the dependent variable (profitability). The two variables were subjected to correlation analysis to find out how each of these variables is related to one another.

Table 4: BPCI Ratios for the Years 2006-2008

Profitability as in BPCI	Year	Average in %
ROS	2006	19.37
	2007	20.90
	2008	21.51
ROI	2006	20.32
	2007	24.18
	2008	25.23
ROS		
2006		
13.61		
	2007	15.19
	2008	16.86

Table 5: Intercorrelations of the two main variables

	BPCI
BPCI	1
Hosue design innovativeness	.308**

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

* Correlation is significant at the 0.05 level (2-tailed)

Table 6: Results of regression analysis between house design innovativeness and profitability (BPCI)

Independent variables	Dependent variable Profitability (BPCI) Standardized Coefficient (β)
House Design Innovativeness	0.402**
R ²	0.11
Adjusted	0.07
F Value	2.40

* $p < 0.05$, ** $p < 0.01$

In any research, beyond knowing the means and standard deviations of the dependent and independent variables, the researcher would often want to know how one variable is related to another. This is to enable the researcher to see the nature, direction and significance of the bivariate relationships of the variables used in the study. Hence, this study employed the Pearson Correlation Matrix for the correlation analysis to determine the direction, strength and significance of the bivariate relationships of the two main variables in the study. The correlation is derived by assessing the variations in one variable as another variable also varies. Correlation coefficients indicate the strength of the association between the variable under investigation. The sign (+ or -) indicates the direction of the relationship. The value can range from -1 to +1, with +1 indicating a perfect positive relationship, 0 indicating no relationship and -1 indicating a perfect negative or reverse relationship [50]. Table 5 shows the results of Pearson Correlation Analysis.

Associations Between the Independent and Dependent Variable: The results of the correlation analysis (as shown in Table 6) showed the existence of relationship between the independent and dependent variable.

The table showed a significant and positive correlation between house design innovativeness and the dependent variable (profitability) of the independent variable (organizational innovativeness) and their correlation coefficients (r) range was 0.31 and 0.703 ($p < 0.01$).

In this study, hierarchical regression was employed to test the impact of the independent variable (predictor) – house design innovativeness- on the dependent variable (profitability). Below is the generated hypothesis about the relationship between the different dimensions of organizational innovativeness and profitability (BPCI).

H1a: House design innovativeness has a positive impact on the profitability of the housing developers.

The results of the regression analysis as showed in Table 6 showed that only House Design Innovativeness ($\beta = 0.4$, $p < 0.01$) is positively and significantly related to profitability.

Hypothesis Testing on House Design Innovativeness and Profitability

Based on the empirical results of the statistical tests, the following section discusses and provides the conclusion of the major findings that hold significant importance of this research. Eleven per cent of the firms' profitability is explained by design innovativeness.

An organization's strategic performance, as measured by its competitive advantage within its industrial context, has been considered at least in part a function of the presence of innovation related activities. They added that firm performance, it has been axiomatically argued, is improved by the presence of innovation. It has been noted, however, that this link may be tenuous in the absence of concrete market-related changes to accompany the innovation [51].

The findings of the present study found that house design innovativeness is significantly correlated with the profitability measured by BPCI. This is clearly shown by the regression analysis, which showed statistically significant ($P < 0.01$) relationship between house design innovativeness and organizational profitability (BPCI).

In fact, this finding goes in line with a growing body of evidence which addresses the relationship of design and its impact on different dimensions of company performance. One strand of literature has analyzed the impact of design activities on general firm performance.

The finding of the current study about the impact of design on performance of housing developers goes in line with the results of Platt *et al.* (2001) [4] who used several measures of financial performance and investigated 51 companies in four industries over a five-year time period. Their findings provide strong support for the fact that firms with good design have better financial performance. Similarly, Hertenstein *et al.* (2005) [40] examine the relationship between industrial design and financial performance of a firm employing an interesting methodology. Instead of relying solely on firm-level data, they asked a panel of 138 industrial design experts to rank the design effectiveness of firms within nine selected manufacturing industries. Their results show that firms which were rated as having a good industrial design are significantly positively related to corporate financial performance and stock market performance.

The finding of the study goes in line with what the results of Robinson [19] who highlighted that, according to marketing theorists, organizations that emphasize innovation speed gain market share. Gaining market share and gaining a competitive advantage over competitors are examples of the benefits of innovation/innovativeness. Moreover, he added that marketing theorists have shown that a broad cross section of industries, organizations that emphasize innovation speed, gain market share [49].

This study supports what strategy theorists have asserted. Strategy theorists asserted that organizations emphasizing innovation are able to erect '*isolating mechanisms*' or differentiations because the knowledge

contained in these innovations is not readily available to competitors. These isolating mechanisms protect profit margins, which could result in significant financial benefits for early adopters [52].

The results of this study are in line with what Rosenbusch, N., *et al.* (2010) [25] who found empirical evidence regarding the innovation-performance relationship in SMEs. The findings showed that both an innovation orientation and innovation activities create value for new and established SMEs. Although innovation can imply high initial and continuous investments, risks and uncertainty, the benefits such as differentiation from competition, customer loyalty, price premiums for innovative products and entry barriers for potential imitators generally seem to outweigh the costs. By and large, SMEs that pursue an innovation strategy appear to have sufficient resources and capabilities to benefit from innovation. They also found out that the strong positive effects of an innovation orientation on success can lead entrepreneurs and small business executives to conclude that by focusing more attention on innovation and devoting more resources to the innovation tasks, the benefits of innovation will substantiate automatically.

In their study entitled "*Leadership and organizational learning's role on innovation and performance: Lessons from Spain*", J.A. Arago-Correa *et al.* (2007) [53] found a positive and significant relationship between innovation and performance ($\beta = 0.73$, $p < 0.001$). This result is in line with the results of the current study though it was much stronger.

The result of this study shows how important design innovativeness is for the housing developers in Peninsular Malaysia to be more profitable. The impact of design in relation to quality is examined by Clausing and Simpson (1990) [54] and Walsh *et al.* (1992) [42] who describe and illustrate ways in which good design can add 'perceived value' to products since customers are often prepared to pay more for something which is well-designed and is produced to a high standard of finish. In this way, companies are able to increase profit margins and improve their performance as well as instill customer confidence.

At one end of the spectrum, design can be used to generate new ideas as well to interpret, integrate and communicate those ideas both within the company and to the customer or supplier. At the other end, design can become the fulcrum or central driver for new projects which might otherwise fail through lack of commitment, flair or coherency [55]. In this respect, the level of design

involvement can be set against profitability since the resulting efficiencies and productivity gained will not only save valuable time but also reduce development costs. Few companies today can afford unnecessary delays resulting from misunderstandings and poor communications or, even worse, a poorly conceived product which takes longer than its competitors to reach the marketplace [56].

The descriptive statistics of the principal variables of this study showed that the housing developers in Peninsular Malaysia are generally not that innovative (mean=4.28 in a 7-point Likert Scale). Along a 7-Likert Scale, they fall between 4 (neither agree nor disagree) and 5 (slightly agree). These results go in line with previous results that asserted that the housing industry compared to other industries is not innovative. This could be due to certain factors as follows: the consumer affluence and experience with other industries are leading to expectation of better quality and greater choice of housing products (Cooke, 1996) [57], a growing diversity of household formation is also likely to make greater product variety an imperative and finally the skill shortage, which is owing to a reduction in training places that resulted from the contracting out of site work by builders [58].

Looking into the housing developers' budget for employees' training and development based on the percentage of total payroll, we find out that 45.6% of them (47 out of 103) pay less than 1% of payroll. Almost 39% pay between 1% to 2% of the payroll. This shows that the budget allocated by the housing developers on employees' training is not much. This goes in line with the results of Ball (1996) [57] who found that the skill shortage in the housing industry is a critical problem and that it is partly due to a reduction in training places that resulted from the contracting out of site work by builders. However, since there is a housing shortage, people will still buy and since competition is low, the housing developers will still manage to make profits despite the fact that the level of innovativeness in the housing industry is not that high.

In the Malaysian context, the "*sell-then-build*" concept, well known as (STB), contributed to the low level of innovation in the housing industry. The existing STB system, which has been in force since Malaysia achieved its independence, has many flaws. Many dishonest and unscrupulous developers have taken advantage of the fact that under STB, developers are able to sell houses before they are built. Complaints abound about unsatisfactory workmanship, the late delivery of houses and abandoned projects. Abandoned projects place a

particular burden on buyers, who not only make up-front payments for the new houses but also continue to pay rent for their existing accommodations during the construction process [59]. In fact, applying Sell Then Build (STB) concept makes the developer more powerful than the buyer. Since the developer has already sold the house, there will be no motive for such a developer to provide a house with a better quality.

As for the organizational performance, the descriptive analysis showed that, by and large, the housing developers are doing well in terms of both financial performance. The majority of the housing developers (42.7%) scored profitability of between 13% to 23%, which is a clear indicator of doing well financially.

Suggestions for Future Research: This study found a statistically significant relationship between the house design innovativeness and the profitability of the housing developers in Peninsular Malaysia. Profitability was used as the measurement of the financial performance. It is recommended that financial growth is used too to check whether the housing developers whose houses are innovative in terms of design achieve financial growth besides profitability or not. Other strategic management variables are also encouraged to be investigated. These variables include the competitive intensity in the housing industry, the government incentives and policy and the organizational culture in the housing developing companies.

CONCLUSION

The findings of this study offer some insights to housing developers with useful guidelines for attainment of superior firm's performance. The results showed that house design innovativeness as a strategy is significantly correlated with profitability. Thus, housing developers in Peninsular Malaysia should pay more attention to the design and use it as a strategy to attract more customers and gain a competitive advantage over the competitors in the housing industry.

Underlined by the Resource Based View /Theory (RBV), this study showed that the innovation strategy with regards to the house design can explain the profitability of the housing developers. RBV suggests that firm's key resources may be heterogeneous and immobile. In order to have the potential of sustained competitive advantage, a firm resource must have four attributes: (i) it must be valuable in the sense that it exploits opportunities and/or neutralizes threats in a firm's

environment ; (ii) it must be rare among a firm's current and potential competition; (iii) it must be imperfectly imitable; and (iv) there cannot be strategically equivalent substitutes for this resource that are valuable but neither rare or imperfectly imitable (Barney, 1991; 2001). The innovation strategy with regards to the house design could be a successful strategy that can make the housing developers achieve a competitive advantage. The findings of the current study showed that house design innovativeness is significantly correlated with profitability.

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