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The Organizational Innovativeness of Public Listed Housing Developers in Malaysia

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***Abstract*—**This paper investigated the organizational innovativeness of public listed housing developers in Malaysia. We conceptualized organizational innovativeness as a multi-dimensional construct consisting of 5 dimensions: market innovativeness, product innovativeness, process innovativeness, behavior innovativeness and strategic innovativeness. We carried out questionnaire survey with all accessible public listed developers in Malaysia and received a 56 percent response. We found that the innovativeness of public listed housing developers is low. The paper ends by providing some explanations for the results.

***Keywords*—** innovativeness, housing industry, measurement of innovativeness, public listed housing developers

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I. Introduction

HOUSING developers are urged to be innovative in order to succeed and survive in the current changing environment. Lean and agile productions [1, 2], off-site technologies [3] or manufactured construction [4] and customer orientation [5] are among the innovative efforts which resemble the practice of manufacturing industry claimed to be able to expedite housing supply, boost firm performance , improve housing quality and increase customer satisfaction [6]. In Malaysia, the government commitment towards environmentally friendly agenda, indicated in the 10th Malaysia Plan followed by the launch of Business Sustainability Programme for Corporate Malaysia, has put pressure on the big firms in the housing industry to take an innovative approach that is responsible to the environment in their day-to-day business operations [7].

The benefits of being innovative are obvious. At industry level, innovation is argued to contribute to high economic growth [8]. In addition, investment in innovation has created new industries and generated new jobs [9]. Innovation provides opportunities to integrate technologies into sustainable new products or services [10] which subsequently lead to a better living standards through the creation of a cleaner, safer and more efficient physical environment [11]. At organizational level, innovation has long been perceived as an important factor which contributes to high firm performance and competitive advantage. Das and Joshi [12] argue that innovativeness provides profitable outcomes, improves performance, and enhances efficiency. New communication technologies have been argued to lead towards improved efficiency and subsequently resulted in an early response of consumer demand [13].

Despite much interest in innovativeness, there is a dearth of empirical research that has specifically focused on measuring innovativeness at the organizational level. Most studies tend to concentrate on identifying factors that positively or negatively affect innovation. Research and development (R&D), knowledge sharing, training and education, incentives and conducive environment for innovation are argued to be the driver for innovation [14]. Other researches focus on organizational factors such as organizational culture [15], organizational structure [16] and resources [17, 18] which influence innovation. In addition, Barlow and Koberte-Gaiser [19] confirmed that the inefficient allocation of risks hindered innovation.

The limited studies on innovativeness have focused on measuring innovativeness at the industry or sector level. Reichstein et al., [10] investigated the level of innovation in the construction industry in UK and found that such a level is low. Similarly, Drejer and Vinding [20] found that the level of innovativeness in the Denmark housing industry was only 22 %, which is much lower than the level of innovativeness in the services and manufacturing sectors where the level of innovation levels were between 44 and 58 %. One strand of research which measured firm innovativeness at the organizational level is Yusof et al [21] study. The study revealed that Malaysian housing developers are the late majority. However, the scope of the study is too narrow because they focused on just one type of process innovation – that is a new housing delivery system – caution should be exercised when generalising the results to other types of innovation.

The paper aimed to fill in the gap by investigating the innovativeness of public listed housing developers in Malaysia. The reason to focus on public listed companies is that by being listed under the Bursa Malaysia, it means that these developers have accumulated a huge land bank, capital, and technology; this indicates that these developers have the capacity at least in terms of capital and technology to innovate. The question that remains unanswered is to what

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extent innovative are the housing public listed firms in Malaysia?

The practical contribution of the paper is that by understanding the level of innovation in public listed firms, the findings would help the government in setting strategic policy measures to increase the level of innovation in the industry, which many authors argued as low compared to other industries [5, 10, 20]. The findings would also be beneficial to the top management of the housing developers to pay more attention to improve particular types of innovation which can facilitate the implementation of innovation in these companies.

II. Innovativeness And Its Measurement

Innovativeness is defined as an organization capability to come out with new products, process or open out new markets [22]. Avlonitis et al. [23, 24] developed a conceptualization of organizational innovativeness that represents a latent capability of firms, which is composed of two important parts. These parts are technological and behavioral aspects that denote to the capacity and commitment of a firm to innovate. Lumpkin and Dess [25] follow a combined conceptual approach with regards to innovation. According to this approach, innovativeness reflects a firm's tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes. This perspective of innovativeness implies that firm's innovativeness may take several forms and therefore the measurement for firm innovativeness should encompass multi dimensions perspective rather than a uni-dimension perspective. With this regard, previous researchers have identified five main types of innovativeness; product innovativeness, market innovativeness, process innovativeness, behavioral innovativeness and strategic innovativeness .that indicate firm's overall innovativeness [22, 25]. The following explains each type of innovativeness further.

Product innovativeness is defined as a firm capacity to implement products that is new to the firm or new to the market [26]. Sandvik and Sandvik [27] further explain the term new-to-the-firm as products that were used for the first time by a firm and these products are usually replicated from proven successful products in the market. On the other hand, the new-to-the-market means that the products are the first in the market or industry [27]. Included in product innovativeness is innovation in the house design which can be seen in the aspect design features in a building which can reduce complexity and provide ease of buildability [28].

Market innovativeness refers to the extent firms explore into new business opportunities and it focuses on opening new market and developing a better method to serve that particular new market [29].

Process innovativeness is usually considered as related to technology innovativeness and is defined as the ability of a firm to bring together its capital and resources so as to develop and implement new production methods, new management approach and new technology [22, 30] .

Behavioral innovativeness can be considered to be to the capability of different levels in a firm; employees, managers and entrepreneurs to sustain behavioural change in order to adopt new products or services [22] with "newer" products or services being the most recently adopts or used [31].

Strategic innovativeness is a radical change in running an existing business until it opens up a new frontier for the firm which lead to competitive advantage and added value for the firm [22, 32].

III. Research Methodology

The data were gathered through a structured questionnaire survey. The questionnaire forms were distributed to the housing developers which were listed in the main board and second board of Bursa Malaysia (stock exchange in Malaysia). The firms addresses were obtained from the internet and most of these developers were situated in the Klang Valley, conforming the results of Johnstone [33] study 3 decades ago about spatial concentration of big firms at the major cities of Malaysia. Nevertheless, out of 90 firms listed in the Bursa Malaysia during the study period, only 65 firms can be identified through their addresses. Since the size of the population is small, we follow Krejcie and Morgan [34] suggestion on the need to survey the whole population. The targeted respondents were the owner or project manager of the public listed firm who were involved in the decision making process.

The questionnaire consisted of five sections (A, B, C, D and E). **Section A** was about the profile of the respondents asking about the respondent's age, ethnicity, designation, educational level, experience in housing industry, and the number of subordinates who report directly to him/her. **Section B** asked about the profile of the housing developer firm which includes firm's ownership, year of beginning operation and number of full time employees. Section C measured the organizational innovativeness using 25 items adopted from Wang and Ahmed [22] Covin and Slevin [35] and Hurley et al [36]. Seven-point scales ranging from "strongly disagree" to "strongly agree" were used to gather information in this section. Sections D and E were the independent variables which were not the focus of this paper.

A total of 55 questionnaires were successfully distributed but only 31 were returned, giving a response rate of 56% (31 out of 55).

For the purpose of data analysis, two major statistical analyses were employed: reliability analysis and descriptive statistics analysis using the Statistical Package for Social Sciences (SPSS) for Windows software (version 18).

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Reliability analysis was conducted for all scale items. The purpose of reliability analysis is to verify the internal consistency among the items. The greater the consistency in responses among items for each factor, the higher the Cronbach's alpha. Cronbach's alpha was used as a measure for reliability as it has a range of 0 to 1.0 , denoting higher agreement among respondents in the latter. According to Hair, et al. [37] Cronbach's coefficient alpha that is greater than 0.50 is considered as acceptable and generally agreed upon as the lower limit for new measures. Descriptive statistics such as mean, standard deviation, maximum, range, and percentage are used to analyze all the final constructs and also to present the respondents' demographic and industry profiles such as age, ethnicity, education level, years of operation, number of employees, and business ownership. Hence, descriptive analysis is carried out to present the raw data into a form that is easy to understand and interpret. The detail of the descriptive analysis for all the main constructs in this study ispresented in the succeeding sections.

IV. DATA ANALYSIS AND FINDINGS

A. Respondents Profile

The descriptive statistics of 31 respondents in this study showed that 24 (77.4%) of the managers are males while 7(22.6%) are females. In terms of age, the majority of them (61.3%) were between 41 to 60 years. Only 4 managers were more than 60 years in age. The majority of the managers were Chinese (19 in number), 8 (25.8%) were Malay while the minority of managers (12.9%) were Indians. As for the managers' designation, the majority of them (17 in number) 54.8% were project managers. 6 of them (19.4%) were the managing directors / CEOs. 5 of them (16.1%) were general managers and 3 of them were finance managers.

In terms of education level, the majority of managers (16 in number) were holding bachelors' degrees while 10 of them were masters' degree holders. Four of them were diploma holders while only 1 were with high school qualifications.

In terms of years of experience in the housing industry, the majority of the managers (11 in number) had from 6 to 10 years and from 11 to 20 years of experience in the housing industry, respectively. Only 7 of them (22.6%) had more than 20 years of experience in the housing industry. As for the number of people reporting to the managers, the majority of the managers (35.5%) had 11 to 20 people reporting to them. Nine managers (29%) had 6 to 10 employees reporting to them. Only 6 managers had 1 to 5 people reporting to them and 5 managers had more than 20 people reporting to them.

As for the operation in the industry, the majority of the developers in this study started operating in the 1980s and 1990s (11 developers in number, respectively). Six developers operated between 2000-2006 (19.4%). They were considered new to the housing market in Malaysia. As for the ownership of the companies, the data showed that the public listed housing developers in Peninsular Malaysia is mainly owned by the Chinese (67.7%). Nine companies were owned by the Malays while only 1 was owned by Indian.

B. Analysis and Results

Prior to the descriptive analysis, a reliability test was performed to check the consistency of the scale used in the study. Table 1 below depicts the summary of the reliability test with their respective Cronbach's alpha coefficients. By taking Hair et al. [37] Cronbach's alpha coefficient of 0.5 and above as an acceptable minimum value for exploratory research, only one dimension has the alpha value of below the acceptable level (Strategic Innovativeness with alpha value of 0.379) and therefore was deleted (please refer to Table 1). The remaining dimensions have the alpha values ranged between 0.781 to 0.862 indicating they satisfied the above minimum requirements and thus were retained for further analysis.

TABLE I
RELIABILITY COEFFICIENTS FOR THE MAJOR VARIABLES

No.	Dimensions	No. of items	Cronbach Alpha
1	Market Innovativeness	4	.781
2	Behavior Innovativeness	4	.862
3	Process Innovativeness	3	.792
4	Product Innovativeness	10	.823
5	Strategic innovativeness	4	.379

A descriptive analysis was then performed. Table 2 shows the mean scores and standard deviation (SD) of the remaining four dimensions of innovativeness of the public listed housing developers. Mean scores were computed by equally weighting the mean of all items in each construct. For example, the mean for market innovativeness score is computed by equally weighting the mean scores of all the 4 items representing market innovativeness.

Table 2 shows that on a seven-point Likert scale, the combine mean score of the principal variables is 4.1729 with SD of 0.94923. With the mid-point of 4.50 we consider as Innovative, therefore it can be deduced that in general, the innovativeness of public listed developers is low. Looking at specific dimension, the finding shows that all dimensions have mean score of below 4.5 indicating that the innovativeness of housing developers in terms of market, behavior, process and product innovativeness is low.

TABLE II
DESCRIPTIVE STATISTICS OF ORGANIZATIONAL INNOVATIVENESS

Dimensions of Innovativeness	Scale	Mean	Standard Deviation (SD)
Market Innovativeness	7-point Likert	4.024	1.01315
Behavior Innovativeness	7-point Likert	4.2016	1.04566
Process Innovativeness	7-point Likert	4.3763	1.03187
Product Innovativeness	7-point Likert	4.0896	0.92448
Combine Mean Score		4.1729	0.94923

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V. Conclusion

The study extends the knowledge on innovativeness theory by focusing on the innovativeness of public listed housing developers in Malaysia. This level of innovation or their innovativeness is explained by four dimensions; market innovativeness, behaviour innovativeness, process innovativeness and product innovativeness. Overall, this study found that Malaysian public listed housing developers are low in terms of their innovation level.

The results concur with those of earlier studies showing that the housing industry generally lags behind in terms of innovation [5, 10, 20]. The results however do not concur with Yusof et al [21] who found that Malaysian developers are partially innovative, in this case in the form of one process innovation; the new housing delivery system. Some possible reasons for the inconsistency in the results can be deduced. First, the present study focuses multi dimensions perspective of innovativeness while Yusof et al [21] focuses on one type of innovation. Second, the present study concentrates on public listed developers while the later focuses on all developers with majority of their respondents are from the small developers.

Finally, some limitations of the study should be noted. First, the number of respondents is relatively low even though it provides acceptable level of response rate at 56% (31 out of 55). If the whole population of Malaysian developer rather than just the public listed developers is involved, the results may have been different. Therefore, another study is needed to see if the small and medium developers give the same results. Second, the paper does not focus on factors that influence firm innovativeness. Studies have cited organizational factors, such as firm structure [16], culture [15], and resources [17, 18] to influence firm innovativeness. Studies that account for all of these factors will add value to the existing knowledge.

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