

## **RELATIONSHIP BETWEEN ORGANIZATIONAL CULTURE AND INNOVATIVENESS OF PUBLIC LISTED HOUSING DEVELOPERS**

*Nor'Aini Yusof*

*School of Housing, Building and Planning, Universiti Sains Malaysia, 11800  
Penang, Malaysia  
ynoraini@usm.my*

*Ismael Abu-Jarad*

*Department of Technology Management, Universiti Malaysia Pahang,  
Pahang, Malaysia  
ismaelabujarad@gmail.com*

### **ABSTRACT**

The benefits of innovation and the need to be innovative have been highlighted by many. However, it is doubtful whether the players in the housing industry, in particular the housing development firms, have the characteristics that are favourable for innovation. The study seeks to examine the relationship between organizational culture and innovativeness of public-listed housing developers in Malaysia. A survey was conducted to all housing developers that were registered with the Bursa Malaysia. The data were analyzed using descriptive statistics, reliability test and correlation analysis. The results revealed that 4 out of 8 dimensions of the organizational culture were statistically significant with organizational innovativeness with moderate strength. Specifically, performance orientation, humanitarian and assertiveness culture had highly significant relationships with organizational innovativeness while future orientation had a significant relationship with organizational innovativeness.

**Keywords:** Organizational Culture, Organizational Innovativeness, Public Listed Firm, Housing Developers

### **INTRODUCTION**

The housing industry has been under pressure to be innovative because of the challenges in terms of strict environmental legislations, global competition, and the emergence of clients who have become more demanding (Seaden & Manseau, 2001). Organizations embrace innovation, either as a strategy to create new environments for them to gain competitive advantages and raise profits and market shares (Baer & Frese, 2003), or as a response to address changes to its internal or external environment (Hult, Hurley, & Knight, 2004). As such the ability of an organization to innovate and be innovative has become a central issue among organizational theorists.

However, innovation in an organization is not something that happens naturally. To embrace the concept of innovation and be innovative, organizations need to possess environments within the organization, or in another word, cultures, that support innovation (Baer & Frese, 2003). In a similar note, Martin and Terblanche (2003) argue that innovative organizations can be distinguished through cultures that are present in the organizations. At organization level, a culture is widely defined as a

collection of shared values or beliefs of the members about their organization (Schein, 2004) and are manifest through practices and the running of the business (Hartmann, 2006). Another widely cited definition of the term is the one from Hofstede (2001) which refers organizational culture as the 'collective programming of the mind' that differentiates one organization from another. An organizational culture can be observed through norms, actions and rules and develops through communications and relationships among the organizational members (Martins & Terblanche, 2003). This interaction helps members understand how the organization operates which subsequently influences their judgments and behaviors (Hartmann, 2006). Although organizations in the same industry or environment tend to engage to the same cultures of running business (Oney-Yazici, Giritli, Topcu-Oraz, & Acar, 2007), innovative and non innovative organizations can be differentiated through cultures that are present in the organizations (Martins & Terblanche, 2003). The way an organization operates its business, adapts to external pressure or deals with internal differences is determined by its culture (Hilal, Wetzel, & Ferreira, 2009). In addition, negative behaviours such as resistance towards change and withdrawal are also influenced by cultures (Nguyen & Kleiner, 2003; Yusof & Mohd Shafiei, 2011). Therefore, applying to Schein's (Schein, 2004) proposition, understanding of organizational culture is a vital management tool to improve innovativeness.

The objective of this paper is to examine the effect of various organizational culture dimensions on innovativeness of public-listed housing developers in Malaysia. Despite the recognition given to the importance of innovation adoption to firm survival and competitive advantages, the relationship between organizational culture and innovativeness has attracted little interest among researchers (Kirkman, Lowe, & Gibson, 2006) particularly in the developing country. Most studies on organizational culture and innovativeness, have been focused on the USA and European countries (Naranjo-Valencia, Jiménez-Jiménez, & Sanz-Valle, 2011). Among the limited studies is the work of Yusof and Mohd Shafiei (2011) which focuses on the general organizational culture and not the details, as one of organizational readiness dimensions which influence the innovativeness of housing developers. As such, the currently available knowledge on organizational culture offers little understandings on the extent to which organizational culture influences innovativeness in the housing industry context. In addition, of the many cultural dimensions, individualism-collectivism is the most studied, apparently because of its close relationship with group ties (Kirkman et al., 2006). We concur with Kirkman (2006) and argue that the other cultural dimensions are equally important.

To fill in the gap, we conduct a study by surveying the Malaysian public-listed housing developers. We argue that in order to support innovation and be innovative, public-listed housing developers in Malaysia must exhibit certain organizational cultures. This paper contributes to this argument by extending our understandings on organizational innovativeness by empirically investigating the relationship between the dimensions of organizational cultures and innovativeness of public-listed housing developers in Malaysia. Apart from the four culture dimensions; power distance, uncertainty avoidance, individualism-collectivism and masculinity-femininity introduced by Hofstede's and Bond's (1984) seminal work, we incorporate another four dimensions of organizational culture put forward by more recent studies namely future orientation, human orientation, assertiveness and performance orientation into the conceptual model of organizational culture-innovativeness relationship of the

public listed housing developers in Malaysia. Practically, the result is valuable to the housing industry as it helps the industry to be innovative by highlighting cultures which are conducive for innovation, so as to face the many challenges of stricter environment regulations, demanding clients, increasing costs and stiff competition.

In the proceeding sections we provide the discussions on organizational culture and organizational innovativeness followed by the development of a working framework for investigating the interplay of these two concepts.

## **ORGANIZATIONAL CULTURE**

There are four dimensions of organizational culture identified in the literature namely power distance, uncertainty avoidance, individualism-collectivism and masculinity-femininity (Hofstede & Bond, 1984). Power distance refers to the degree that subordinates in organizations agree to the imbalance of power dissemination (Hofstede & Hofstede, 2005), such as accepting the decision made by their superiors and the extent subordinates are allowed to participate in the decision-making (Cheung, Wong, & Wu, 2011).

Uncertainty avoidance connotes to the feelings of insecurity and the extent of tolerance among organizational members when faced with uncertainty or unfamiliar circumstances (Cheung et al., 2011; Hofstede & Hofstede, 2005). It reflects the degree of an organization attempt to avoid uncertainty, usually through organizational practices, rules and systems (House, Javidan, Hanges, & Dorfman, 2002).

Individualism is a self-focused trait defined as a culture which people look after themselves and their immediate families, while collectivism is the opposite. Collectivism reflects a strong group ties where members are integrated and remunerates teamwork and consensus in exchange for loyalty (Hofstede & Hofstede, 2005; House et al., 2002).

Masculinity represents assertiveness, strict and concentrate on monetary success while femininity symbolizes tenderness and caring and focuses on quality of life (Hofstede & Hofstede, 2005). Masculinity-femininity dimension also reflects the role division of organizational members according to gender (Cheung et al., 2011).

These four dimensions have been validated through a worldwide study of IBM employees in 40 countries (Hofstede, 1983) and adopted widely in various sectors and countries (Cheung et al., 2011). In addition to the four dimensions, more recent studies have included other dimensions such as future orientation, humane orientation, assertiveness and performance orientation.

Future orientation is derived from Hofstede's and Hofstede's (2005) fifth dimension which represents positive, persistent and dynamic cultures that can be related to Confucian dynamism or long term orientation (Fang, 2003).

Humane Orientation focuses on members in the organization. It is mainly aimed by the organization to serve or assist its members (Câmpeanu-Sonea, Borza, Sonea, & Mitra, 2010). In such organization, a strict control from the superiors is rejected while consensus decision making and empowerment are encouraged (Igo & Skitmore, 2006).

Members in such organization are expected to show good examples, selflessness, justness and helpfulness (Câmpeanu-Sonea et al., 2010).

Assertiveness indicates the degree to which members are firm, aggressive and dominant (House et al., 1999). Assertiveness organization is exhibited in direct and less ambiguous communication styles between managers and the subordinates (Calza, Aliane, & Cannavale, 2010). Calza, Aliane and Cannavale (Calza et al., 2010) exert that organization with high level of assertiveness have the tendency to insists its opinion to members and their associates.

Performance orientation refers to the degree which organization rewards innovation, quality, and performance improvement (Javidan, 2004). Although performance orientation has some similarities with masculinity-feminity dimension, Calza, et al (Calza et al., 2010) argue that performance orientation is also related to uncertainty avoidance culture dimension such as willingness to take risks and openness towards changes. Within an organization, performance orientation also implies short term sacrifices to materialize long term goals.

The above organizational culture dimensions prove that there is a possibility of more than one culture in an organization. In short we can assumed that organizational culture is something that is present and can be observed in an organization (through decisions, actions, rules etc), and it is developed over time based on group experience; therefore can be influenced and is open to changes.

## **FIRM INNOVATIVENESS**

The term innovation which is firstly introduced by Schumpeter in the 1930s can be defined as an idea, product or process that is new to the firm (Schumpeter, 1939). With regards to the definition, there are two deliberations of the concept of innovation. The first one focuses on innovation adoption and considers innovation only if the new idea, product or process is put into practice (Badawy, 1988; Teece, 1998). Then, the second one considers innovation as a process. This has prompted Hult et al (Hult et al., 2004) and subsequently Moos et al (Moos, Beimborn, Wagner, & Weitzel, 2010) to define organizational innovativeness as an organizational capability to constantly develop and adopt new ideas, products or processes. Because organizations usually engage with more than one type of innovation over time, in terms of organizational innovativeness, some authors argue that innovativeness should be viewed as multidimensional, rather than uni-dimensional or according to a specific type of innovativeness (Moos et al., 2010; Wang & Ahmed, 2004; Yusof, Mohd Shafiei, Said, & Zainul Abidin, 2010). Hult et al (Hult et al., 2004) stress that an organization may devote its resources in research and development (R &D) but without the capability to innovate it will unable to transform the results into implementation. Because of this reason, input orientated measurement such as investment on R & D is insufficient to measure innovativeness of an organization (Moos et al., 2010). This limitation raises the need for multi dimensional view of organizational innovation (Yusof et al., 2010).

Wang and Ahmed (2004) have identified five dimensions of overall organizational innovativeness; product innovativeness, market innovativeness, process innovativeness, behavioral innovativeness, and strategic innovativeness. Besides these

five dimensions, in the context of house building industry, there is another dimension named house design innovativeness which is equally important to cover all aspects of organizational innovativeness in the housing industry. These six dimensions depict an organization's overall innovativeness. The following elaborates the six dimensions.

Product innovativeness is defined as newness, novelty, originality, or uniqueness of products (Henard & Szymanski, 2001). Product innovativeness signals the level of newness in product innovations (Cillo, De Luca, & Troilo, 2010), which can be incremental at one spectrum and radical at the other end (Avlonitis & Salavou, 2007). Product innovativeness can be explained in two different angles- the viewpoint of firms and the viewpoint of customers (Molina-Castillo & Munuera-Aleman, 2009). From the firm's viewpoint, product innovativeness is viewed as the suitability between the firm resources either human, capital or technology ability, and the innovative product requirement (Molina-Castillo & Munuera-Aleman, 2009). On the other hand, from the consumer's viewpoint, product newness is considered through the degree of change in previous consumer behavior trend, the characteristics of the new product which is unique or original (Danneels & Kleinschmidt, 2001) and the benefits of the new product (Wang & Ahmed, 2004). The benefits of product innovativeness can be seen either in terms of a product or building which is easy to build, less reliance on skilled workers and of a higher quality (Lam, Wong, & Wong, 2007).

Market innovativeness is defined as new ways, usually in terms of marketing strategies, adopted by a firm to penetrate into a specific market (Wang & Ahmed, 2004). Market innovativeness can be in the form of discovering new market niche so as to become ahead of competitors (John, 1999) or a new approach to serve the existing market (Wang & Ahmed, 2004). Hilmi and Ramayah (Hilmi & Ramayah, 2009) consider market innovativeness as an adoption of new or unique market-oriented methods in order to take advantage or penetrate into a targeted market. O'Dwyer et al (O'Dwyer, Gilmore, & Carson, 2009) explain market innovativeness to include continuous changes on existing service or practice which allows rebranding and differentiation from the normal services or practices available in the market. Regardless of whether the innovation is about opening up a totally new market or rebranding of the existing market, in both situations, new competitors will likely to emerge but certainly behind the innovative firm (Hilmi & Ramayah, 2009).

Process innovativeness is defined as a process of inventing new product and also the end result of such process (Das & Joshi, 2007). According to Davenport (Davenport, 1993) process innovativeness helps organization to accomplish its objectives efficiently through new methods or systems of doing job, task or work. Conventional method is argued to have many bottlenecks which reduce speed and efficiency (Zaheer, Rehman, & Khan, 2010). These bottlenecks require radical changes or continuous improvements to address all the problems in order to facilitate the organization to achieve its desired objectives (Zaheer et al., 2010). Process innovativeness encompasses of technology innovation either in the form of radical changes which result in a completely new system or in the form of continuous changes of production methods which improvise the existing methods (Baer & Frese, 2003; Wang & Ahmed, 2004). Examples of process innovativeness are Business Process Reengineering (BPR), Total Quality Management (TQM), Lean Production and Just-in-Time Production (JIT), and among the benefits that an organization

received by adopting process innovativeness is ahead against its competitor (Baer & Frese, 2003).

Behavior innovativeness refers to a change in conduct or attitude of organizational members that facilitate the development and the adoption of new ideas, products or process (Jong & Hartog, 2007). Behavior innovativeness should involve continuous behavioural changes which signify the commitment of organizations to innovate, rather than just one or two behavioural changes or behavioural changes which only involve certain members only (Avlonitis, Kouremenos, & Tzokas, 1994). According to Wang and Ahmed (Wang & Ahmed, 2004) the end result of behaviour innovativeness is the creation of innovative culture which act as a vehicle for innovation within the organization.

Strategic innovativeness is a radical change in running an existing business until it opens up a new frontier for the organization which leads to competitive advantage and create added value for the organization (Besanko, Dranove, & Shanley, 1996; Wang & Ahmed, 2004). According to Besanko (Besanko et al., 1996) strategic innovativeness focuses on addressing inconsistency between resources of an organizations and their bold objectives and findings ways to ensure these bold objectives are met with effective utilisation of resources.

Apart from the five innovativeness dimensions discussed above, there is also design innovativeness which is unique to creative industry including the building industry. Design innovativeness refers to a continuous change of building design aimed at achieving flexibility, easy monitoring and cost control, and higher quality to fulfil future market trends (Barlow & Köberle-Gaiser, 2008). Carbon et al (Carbon, Hutzler, & Minge, 2006) argue that design innovativeness is more attractive and appealing to the customers in the future even though it will take time to be accepted because of its unfamiliar look. In the context of hospital design, Barlow (Barlow & Köberle-Gaiser, 2008) maintains that design innovativeness should provide flexibility for future advancement in medical technology and increase care standards.

### **ORGANIZATIONAL CULTURE AND INNOVATIVENESS**

While innovation studies reveal that organizational culture can act as a driver or barrier to innovation (Valencia, Valle, & Jiménez, 2010), not many studies attempt to empirically link organizational culture with organizational innovativeness. Most studies on organizational culture tend to focus on the cultures that are present in specific organizations or industry (Bond et al., 2004; Calza et al., 2010; Hofstede & Hofstede, 2005; House et al., 1999). In the construction industry where housing industry is part of it, Cheung et al (Cheung et al., 2011) uncover two most apparent cultures in construction firms; collectivism culture (teamwork) and performance orientation but they tell nothing on the relationships of these cultures and organizational innovativeness. Igo and Skitmore, (2006) reveal the strong presence of market-oriented culture in Australian engineering, procurement and construction management consultancy firms, in contrast with the culture that the employees expect; humane orientation culture. Nevertheless both studies do not relate the results with innovation. At best, Blayse and Manley (Blayse & Manley, 2004) acknowledge the importance of innovation supportive culture to champion innovation in an organization but they do not investigate what the culture is.

Among the limited studies that focus on the influence of organizational culture on innovativeness, it was revealed that a culture which is open for collaboration and high tolerance of risk would encourage creativity and lead towards innovativeness (Panuwatwanich, Stewart, & Mohamed, 2009). Organizational cultures which encourage and challenge organizational members to come out with new ideas are also argued to lead towards innovativeness (Jaskyte & Dressler, 2005; Panuwatwanich et al., 2009). Some authors named this type of culture as stimulation of intellectual (Jung, Chow, & Wu, 2003) to explain an organization which insists new proposals or ideas through creativity and teamwork among members (Panuwatwanich et al., 2009).

Nevertheless there has been inconsistency and conflicting results on whether organizational cultures will lead towards innovativeness. Peters and Waterman (1982) argue that a high degree of control and monitoring of the behaviours and values of subordinates would lead towards integration and thus better performance in a strong, uniform and unifying culture. Nemeth (Nemeth, 1997) disagrees and maintains that strong cultures which are normally used as a social control in an organization are in actual fact a hindrance to innovativeness. An empirical study by Jaskyte and Dressler (Jaskyte & Dressler, 2005) substantiate that strong cultures such as team orientation, collectivism, stability and low level of conflict results in low level of innovativeness. They contend that strong cultures help employees develop commitment and loyalty but the cultures not necessarily promote innovation. The conflicting views have inspired some authors to study the impact of each cultural dimension in more details. Kirkman, Lowe, and Gibson (Kirkman et al., 2006) review the influence of various cultural dimensions and uncover that different cultures influence an organization differently. They conclude that organizations which have strong teamwork characteristics, collectivism culture, will lead towards technology innovation adoption, satisfaction and employees retention, while in contrast, organizations with strong self importance characteristics, individualism culture will encourage innovation, satisfaction and low employees turnover (Kirkman et al., 2006). A case study of a Swiss contractor by Hartmann (Hartmann, 2006) reveals that a low power distance culture (encourage new solutions, incremental or radical change and work empowerment), low uncertainty avoidance culture (high tolerance of uncertainty with effective communication system and prompt feedback) and high performance orientation culture provide conducive environments for innovation. The results of both studies imply the possibility of more than one cultural dimension which may not necessary concur to each other exist in an organization. Accordingly as Cheung et al (Cheung et al., 2011) suggest, it is therefore necessary to understand cultures that are present in an organization for effective management and avoid cultural mismatch.

From the above discussion, we hypothesize that Organizational Culture has an impact on Organizational Innovativeness. However due to the conflicting results as mentioned above, the way how each cultural dimension affects organizational innovativeness is still inconclusive and this motivates us to conduct the present study.

## **METHODOLOGY**

### **Study Population**

A structured survey was conducted to collect the data. The respondents were housing development firms which were listed in the main board and second board of Bursa

Malaysia (stock exchange in Malaysia). The addresses of the firms involved were obtained from the internet but out of 90 firms listed in the Bursa Malaysia during the study period, only 65 firms could be identified through their addresses. Following Krejcie and Morgan (Krejcie & Morgan, 1970) with regard to small population, we 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.

### **Items Used**

Twenty five items were used to measure organizational culture with 12 items were adopted from House et.al (House et al., 2002) and 13 items were adopted from Hofstede (Hofstede & Hofstede, 2005). Four items were used to measure power distance culture while three items each were used to measure uncertainty avoidance, individualism-collectivism and masculinity-femininity, future orientation, humane orientation, assertiveness and performance orientation cultures. The respondents were the owners or the managers and they were asked to rate the extent to which they perceived each construct in a scale of 1 to 6 (1=strongly disagree, 2=disagree, 3=slightly disagree, 4= slightly agree, 5=agree, 6=strongly agree).

In addition, organizational innovativeness was measured using 25 items; 20 items were adopted from Wan and Ahmed (Wang & Ahmed, 2004) where 4 items each were used to measure product innovativeness, market innovativeness, process innovativeness, behavioral innovativeness, and strategic innovativeness while 5 items were used to measure design innovativeness, adapted and modified from Hult et al (Hult et al., 2004) to suit the house building context. A seven-point Likert scale was used ranging from 1=strongly disagree, 2=disagree, 3=slightly disagree, 4= Neither agree nor disagree, 5= slightly agree, 6=agree, 7=strongly agree.

## **DATA ANALYSIS**

### **Profile of Respondents**

Out of 31 respondents, 24 (77.4%) of them were 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 respondents were more than 60 years in age. As for the respondents' designation, the majority of them (17 in number) 54.8% were managers. 6 of them (19.4%) were the managing directors or CEOs, 5 of them (16.1%) were general managers and 3 of them were finance managers.

In terms of education level, the majority of the respondents (16 in number) were holding bachelor's degrees while 10 of them were holding masters' degrees. 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 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, majority of the



respondents' firms was mainly owned by the Chinese (67.7%). Nine companies were owned by the Malays while only 1 was owned by Indian.

### Validity and Reliability Tests

All items were firstly pre-tested for face validity among academicians and managers in the housing industry. The respondents were asked to evaluate the items for readability, clearness of words, and general adequacy of the items for the concepts measured. The respondents commented that the questions were clear and inclusive as they covered most of the elements of the concepts.

Subsequently reliability test was performed on all items. According to Hair et al. (Hair, Black, Babin, Anderson, & Tatham, 2006), the value of alpha ranges from 0 to 1, and if the value is nearer to 1, the reliability becomes stronger. The results of the reliability test indicate that the Cronbach alpha for organizational innovativeness is 0.948 while Cronbach's alpha coefficient for organizational culture is 0.700. This indicates that all items have exceeded Nunnally's and Bernstein's (Nunnally & Bernstein, 1994) minimal acceptable reliability level of 0.70, highlighting the internal consistency of the measure and suggesting that the constructs are statistically reliable. Thus all items are retained for further analysis.

## RESULTS

### Descriptive Analysis of the Major Variables

Having completed the reliability test, the 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 were computed by equally weighing the means of all items in each construct. On a seven-point Likert scale, the combined mean score for organizational innovativeness is 4.1729 with a standard deviation of 0.94923. With the mid-point 4.50 used as the cut-off point for innovativeness, it can be deduced that in general, the innovativeness of public-listed developers is low. Looking at specific dimension, all dimensions have mean scores of below 4.5 indicating that the innovativeness of housing developers in terms of market, behaviours, process, products, strategic and design innovativeness is low. Table 1 depicts the results.

**TABLE 1 : DESCRIPTIVE STATISTICS OF ORGANIZATIONAL INNOVATIVENESS**

Dimensions of Innovativeness	Scale	Mean	Standard Deviation	Items
Market Innovativeness	7-point	4.024	1.01315	4
Behavior Innovativeness	7-point	4.2016	1.04566	4
Process Innovativeness	7-point	4.3763	1.03187	4
Product Innovativeness	7-point	3.8968	0.69641	4
Strategic Innovativeness	7-point	3.9113	0.72038	4
Design Innovativeness	7-point	4.1613	1.30376	5
Combine Mean Score		4.1729	0.94923	

Subsequently the descriptive statistics were obtained from all principle constructs of organizational culture. The results shows that the top three dimensions which had the highest mean score were performance orientation (M=4.4624), humane orientation (M=4.3978) and future orientation (M=4.2688), while the bottom three which had the lowest mean score were power distance (M=3.7258), masculinity/femininity (M=3.7419) and uncertainty avoidance (M=3.8387). On a six-point Likert scale, the results imply that housing developers admit the presence of performance, humane, future orientations cultures, individual-collectivism and assertiveness and slightly admit the presence of power distance, masculinity/femininity and uncertainty avoidance cultures in their organizations. Table 2 shows the results.

**TABLE 2 : DESCRIPTIVE STATISTICS OF ORGANIZATIONAL CULTURE**

Organizational Culture Dimensions	Scale	Mean	Standard Deviation	Items
Power distance	6 point	3.7258	.67501	4
Uncertainty avoidance	6 point	3.8387	.74967	3
Future orientation	6 point	4.2688	.61113	3
Individualism-collectivism	6 point	4.1828	.59528	3
Performance orientation	6 point	4.4624	.90953	3
Masculinity-femininity	6 point	3.7419	.81062	3
Humane orientation	6 point	4.3978	.62313	3
Assertiveness	6 point	4.1398	.65418	3

**Relationship between Organizational Culture and Organizational Innovativeness of Public Listed Housing Developers**

To achieve our main objective, all dimensions of organizational culture were subject of correlation analysis to find out how each of these variables was related to organizational innovativeness. We employed the Pearson Correlation Matrix for the correlation analysis to determine the direction, strength, and significance of the bivariate relationships of all the variables in the study. 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 (Hair et al., 2006).

Table 3 presents Pearson Correlation Matrix for all the principal constructs. The bivariate correlation procedure used in this study was subject to two-tailed test of statistical significance at two different levels: highly significant (p<0.01) and significant (p<0.05). The strength of the relationship between variables can be interpreted in terms of their correlation coefficient (r) based on Rowntree’s (Rowntree, 1981) guidelines as follows: 0 to 0.2: very weak, negative; 0.2 to 0.4: weak, low; 0.4 to 0.7: moderate; 0.7 to 0.9: strong, high marked; and 0.9 to 1.0: very strong, very high.

From Table 3 the results of the correlation analysis showed the existence of relationship between the organizational culture and innovativeness where by 4 out of 8 dimensions of the organizational culture were statistically significant with organizational innovativeness with moderate strength (correlation coefficient between

0.443 to 0.589). Performance orientation, humane and assertiveness cultures had significantly correlated with organizational innovativeness (significant at 0.01 level ) while future orientation had a significant correlation with organizational innovativeness (significant at 0.05 level). The results also showed that there was no significant correlation for the other dimensions.

**TABLE 3 : PEARSON CORRELATION MATRIX**

	Power distance	Uncertainty avoidance	Future orientation	Individualism-collectivism	Performance orientation	Masculinity feminity	Humane orientation	Assertiveness	Organizational Innovativeness
Power distance	1								
Uncertainty avoidance	.157	1							
Future orientation	-.206	.114	1						
Individualism-collectivism	-.307	.425*	.135	1					
Performance orientation	-.167	.015	.462**	.263	1				
Masculinity-feminity	.628**	.203	.033	-.168	.172	1			
Humane orientation	-.141	-.056	.099	.187	.475**	.166	1		
Assertiveness	.322	.334	.264	.208	.485**	.440*	.350	1	
Organizational Innovativeness	-.159	.329	.443*	.301	.589**	.102	.466**	.467**	1

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

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

The statistical evidence shows the current innovation level of public-listed housing developers is significantly correlated with the cultures of the housing development organizations where employees are encouraged to strive for continuously improved performances and be innovative and managers to reward great performances (performance orientation culture). The same cultures also consist of friendly, tolerant, and helpful employees (humane orientation) who know how to values success and progress. These employees are also explicit and straight forward in communicating (assertiveness).

The results imply that when the public-listed housing developers strive to be innovative, they tend to emphasize on quality, professionalism, reward and effective communication channels. On the other hand, other cultures which most studies perceived as important for innovation such as uncertainty avoidance and individualism-collectivism are not evident in the public listed housing developers.

### CONCLUSION

The study extends our understanding on organizational innovativeness by empirically investigating the relationship between organizational culture dimensions and innovativeness of public-listed housing developers in Malaysia. Organizational innovativeness is conceptualised in six dimensions; product innovativeness, market innovativeness, process innovativeness, behavioral innovativeness, strategic innovativeness, and design innovativeness. Organizational culture dimension is explained through eight dimensions; Power Distance, Performance Orientation,

future orientation, Masculinity-Feminity, Humane orientation, Individualistic-Collectivism, uncertainty Avoidance and Assertiveness, and extension from the four generic organizational cultures put forward by Hofstede and Hofstede (2005).

Our study showed that in general, the innovativeness level of Malaysian public-listed housing developers was low and these developers agreed on the existence of performance orientation, humane orientation and future orientation cultures in their organizations. Interestingly there is a mix of soft culture; namely the humane orientation, with the strong cultures; the performance and future orientation cultures and this can be explained by the hot and dusty working conditions of the housing industry which encourage the organizations to engage with humane orientation to retain their employees. In addition, the low innovation level is highly significant with moderate strength relationships with their performance orientation, humane and assertiveness cultures.

The results concur with those of earlier studies such as Nemeth (1997) and Jaskyte and Dressler (2005) that strong cultures such as performance and assertiveness is actually a hindrance to innovation. The results contradict of Hartmann (Hartmann, 2006) who claims that performance orientation encourages innovation.

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 developers, and not just the public-listed developers, is involved, rigorous statistical analysis can be performed such as the regression analysis to identify which organizational cultural dimensions can determine the organizational innovativeness. Therefore, another study is needed to see which organizational culture dimensions can influence innovativeness. Second, the paper only focuses on organizational culture as a single factor that influences innovativeness. Studies have highlighted other factors, such as firm structure (Domínguez & Brown, 2004), resources (Laursen & Salter, 2006; Miller & Wesley, 2010) and firm external factors (Yusof & Mohd Shafiei, 2011) to influence innovativeness. Studies that account for all of these factors will enrich the existing knowledge.

#### **ACKNOWLEDGMENT**

The authors acknowledge the support of the Universiti Sains Malaysia and the Malaysian Government Research University Grant (Grant Number 1001/PPBGN/816023).

Avlonitis, G. J., Kouremenos, A., & Tzokas, N. 1994. Assessing the Innovativeness of Organizations and its Antecedents: Project Innovstrat. *European Journal of Marketing*, 28(11): 5-28.

Avlonitis, G. J., & Salavou, H. E. 2007. Entrepreneurial orientation of SMEs, product innovativeness, and performance. *Journal of Business Research*, 60(5): 566-575.

Badawy, M. K. 1988. How to prevent creativity mismanagement. *IEEE Engineering Management Review*, 16(2): 63-68.

- Baer, M., & Frese, M. 2003. Innovation is not enough: climates for initiative and psychological safety, process innovations, and firm performance. *Journal of Organizational Behavior*, 24(1): 45-68.
- Barlow, J., & Köberle-Gaiser, M. 2008. The private finance initiative, project form and design innovation: The UK's hospitals programme. *Research Policy*, 37(8): 1392-1402.
- Besanko, D., Dranove, D., & Shanley, M. 1996. *The Economics of Strategy*. New York, NY.: John Wiley & Sons.
- Blayse, A. M., & Manley, K. 2004. Key influences on construction innovation. *Construction Innovation: Information, Process, Management*, 4(3): 143-154.
- Bond, M. H., Leung, K., Au, A., Tong, K.-K., de Carrasquel, S. R., Murakami, F., Yamaguchi, S., Bierbrauer, G., Singelis, T. M., Broer, M., Boen, F., Lambert, S. M., Ferreira, M. C., Noels, K. A., van Bavel, J., Safdar, S., Zhang, J., Chen, L., Solcova, I., Stetovska, I., Niit, T., Niit, K.-K., Hurme, H., Böling, M., Franchi, V., Magradze, G., Javakhishvili, N., Boehnke, K., Klinger, E., Huang, X., Fulop, M., Berkics, M., Panagiotopoulou, P., Sriram, S., Chaudhary, N., Ghosh, A., Vohra, N., Iqbal, D. F., Kurman, J., Thein, R. D., Comunian, A. L., Ae, S., Kyung, Austers, I., Harb, C., Odusanya, J. O. T., Ahmed, Z. A., Ismail, R., van deVijver, F., Ward, C., Mogaji, A., Sam, D. L., Khan, M. J. Z., Cabanillas, W. E., Sycip, L., Neto, F., Cabecinhas, R., Xavier, P., Dinca, M., Lebedeva, N., Viskochil, A., Ponomareva, O., Burgess, S. M., Ocejka, L., Campo, S., Hwang, K.-K., D'souza, J. B., Ataca, B., Furnham, A., & Lewis, J. R. 2004. Culture-Level Dimensions of Social Axioms and Their Correlates across 41 Cultures. *Journal of Cross-Cultural Psychology*, 35(5): 548-570.
- Calza, F., Aliane, N., & Cannavale, C. 2010. Cross-cultural differences and Italian firms' internationalization in Algeria: Exploring assertiveness and performance orientation. *European Business Review*, 22(2): 246-272.
- Câmpeanu-Sonea, E., Borza, A., Sonea, A., & Mitra, C. S. 2010. Organisational culture in a transitional economy: A comparative study of Romania. *Employee Relations*, 32(3): 328-344.
- Carbon, C.-C., Hutzler, F., & Minge, M. 2006. Innovativeness in design investigated by eye movements and pupillometry. *Psychology Science*, 48(2): 173-186.
- Cheung, S. O., Wong, P. S. P., & Wu, A. W. Y. 2011. Towards an organizational culture framework in construction. *International Journal of Project Management*, 29(1): 33-44.
- Cillo, P., De Luca, L. M., & Troilo, G. 2010. Market information approaches, product innovativeness, and firm performance: An empirical study in the fashion industry. *Research Policy*, 39(9): 1242-1252.
- Danneels, E., & Kleinschmidt, E. J. 2001. Product innovativeness from the firm's perspective: its dimensions and their relation with project selection and performance. *Journal of Product Innovation Management*, 18(6): 357-373.
- Das, S. R., & Joshi, M. P. 2007. Process innovativeness in technology services organizations: Roles of differentiation strategy, operational autonomy and risk-taking propensity. *Journal of Operations Management*, 25(3): 643-660.
- Davenport, T. 1993. *Process innovation: reengineering work through information technology*. Boston, Massachusetts: Harvard Business School Press.
- Domínguez, L., & Brown, F. 2004. Measuring technological capabilities in Mexican industry. *Cepal Review*, 83(August): 129-144.
- Fang, T. 2003. A Critique of Hofstede's Fifth National Culture Dimension. *International Journal of Cross Cultural Management*, 3(3): 347-368.

- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. 2006. *Multivariate Data Analysis* (6 ed.). Upper Saddle River, N.J.: Pearson Education Inc.
- Hartmann, A. 2006. The role of organizational culture in motivating innovative behaviour in construction firms. *Construction Innovation: Information, Process, Management*, 6(3): 159 - 172.
- Henard, D. H., & Szymanski, D. M. 2001. Why some new products are more successful than others. *Journal of Marketing Research*, 38(3): 362-375.
- Hilal, A. V. G. d., Wetzel, U., & Ferreira, V. 2009. Organizational culture and performance: a Brazilian case. *Management Research News*, 32(2): 99-119.
- Hilmi, M. F., & Ramayah, T. 2009. Market Innovativeness of Malaysian SMEs: Preliminary Results from a First Wave Data Collection. *Asian Social Science*, 4(12): 42-49.
- Hofstede, G. 1983. The cultural relativity of organizational practices and theories. *Journal of International Business Studies*, 14(Fall): 75-89.
- Hofstede, G. 2001. *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations*. Thousand Oaks, CA.: Sage.
- Hofstede, G., & Bond, M. H. 1984. Hofstede's Culture Dimensions. *Journal of Cross-Cultural Psychology*, 15(4): 417-433.
- Hofstede, G., & Hofstede, G. J. 2005. *Cultures and Organizations: Software of the Mind*. New York, NY: McGraw-Hill
- House, R., Javidan, M., Hanges, P., & Dorfman, P. 2002. Understanding cultures and implicit leadership theories across the globe: an introduction to project GLOBE. *Journal of World Business*, 37(1): 3-10.
- House, R. J., Hanges, P. J., Ruiz-Quintanilla, S. A., Dorfman, P. W., Javidan, M., & Dickson, M. 1999. Cultural influence on leadership and organizations: project GLOBE. In W. Mobley (Ed.), *Advances in Global Leadership*, Vol. 1: 171-233. Greenwich, CT: JAI.
- Hult, G. T. M., Hurley, R. F., & Knight, G. A. 2004. Innovativeness: Its antecedents and impact on business performance. *Industrial Marketing Management*, 33(5): 429-438.
- Igo, T., & Skitmore, M. 2006. Diagnosing the organizational culture of an Australian engineering consultancy using the competing values framework. *Construction Innovation: Information, Process, Management*, 6(2): 121-139.
- Jaskyte, K., & Dressler, W. W. 2005. Organizational Culture and Innovation in Nonprofit Human Service Organizations. *Administration in Social Work*, 29(2): 23 - 41.
- Javidan, M. 2004. Performance orientation. In M. House, P. J. Henges, M. Javidan, P. W. Dorfman, & V. Gupta (Eds.), *Culture, Leadership and Organizations: The GLOBE Study of 62 Societies*: 239-281. Newbury Park, CA: Sage.
- Johne, A. 1999. Successful Market Innovation. *European Journal of Innovation Management*, 2(1): 6-11.
- Jong, J. P. J. d., & Hartog, D. N. D. 2007. How leaders influence employees' innovative behaviour. *European Journal of Innovation Management*, 10(1): 41-64.
- Jung, D. I., Chow, C., & Wu, A. 2003. The role of transformational leadership in enhancing organizational innovation: hypotheses and some preliminary findings. *The Leadership Quarterly* 14(4-5): 525-544.

- Kirkman, B. L., Lowe, K. B., & Gibson, C. 2006. A quarter century of Culture's Consequences: A review of the empirical research incorporating Hofstede's cultural value framework. *Journal of International Business Studies*, 36(3): 285-320.
- Krejcie, R. V., & Morgan, D. W. 1970. Determining sample size for research activities. *Educational and Psychological Measurement*, 30: 607-610.
- Lam, P. T. I., Wong, F. K. W., & Wong, F. W. H. 2007. Building features and site-specific factors affecting buildability in Hong Kong. *Journal of Engineering, Design and Technology*, 5(2): 129-147.
- Laursen, K., & Salter, A. 2006. Open for innovation: the role of openness in explaining innovation performance among U.K. manufacturing firms. *Strategic Management Journal*, 27(2): 131-150.
- Martins, E. C., & Terblanche, F. 2003. Building organisational culture that stimulates creativity and innovation. *European Journal of Innovation Management*, 6: 64-74.
- Miller, T. L., & Wesley, C. L. 2010. Assessing mission and resources for social change: An organizational identity perspective on social venture capitalists' decision criteria. *Entrepreneurship: Theory and Practice*, 34(4): 705-733.
- Molina-Castillo, F.-J., & Munuera-Aleman, J.-L. 2009. The joint impact of quality and innovativeness on short-term new product performance. *Industrial Marketing Management*, 38(8): 984-993.
- Moos, B., Beimborn, D., Wagner, H. T., & Weitzel, T. 2010. *Suggestions for Measuring Organizational Innovativeness: A Review*. Paper presented at the System Sciences (HICSS), 2010 43rd Hawaii International Conference on.
- Naranjo-Valencia, J. C., Jiménez-Jiménez, D., & Sanz-Valle, R. 2011. Innovation or imitation? The role of organizational culture. *Management Decision*, 49(1): 55-72.
- Nemeth, C. J. 1997. Managing innovation: When less is more. *California Management Review*, 40(1): 59-74.
- Nguyen, H., & Kleiner, B. 2003. The effective management of mergers. *Leadership and Organization Development Journal*, 24(7-8): 447-454.
- Nunnally, J. C., & Bernstein, I. H. 1994. *Psychometric theory* (3 ed.). New York: McGraw-Hill.
- O'Dwyer, M., Gilmore, A., & Carson, D. 2009. Innovative marketing in SMEs. *European Journal of Marketing*, 43(1/2): 46-61.
- Oney-Yazici, E., Giritli, H., Topcu-Oraz, G., & Acar, E. 2007. Organizational culture: the case of Turkish construction industry. *Engineering, Construction and Architectural Management*, 14(6): 519-531.
- Panuwatwanich, K., Stewart, R. A., & Mohamed, S. 2009. Critical pathways to enhanced innovation diffusion and business performance in Australian design firms. *Automation in Construction*, 18(6): 790-797.
- Peters, T. J., & Waterman, J., R. H. 1982. *In search of excellence: Lessons from America's best-run companies*. New York, NY: Warner Books.
- Rowntree, D. 1981. *Statistics without tears: A primer for non-mathematicians*. New York: Scribner
- Schein, E. H. 2004. *Organizational culture and leadership* (3 ed.): Jossey-Bass.
- Schumpeter, J. A. 1939. *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process*. New York: McGraw-Hill.
- Seaden, G., & Manseau, A. 2001. Public policy and construction innovation. *Building Research & Information*, 29(3): 182 - 196.

- Teece, D. J. 1998. Capturing value from knowledge assets: the new economy, markets for know-how and intangible assets. *California Management Review*, 40(3): 55-79.
- Valencia, J. C. N., Valle, R. S., & Jiménez, D. J. 2010. Organizational culture as determinant of product innovation. *European Journal of Innovation Management*, 13(4): 466-480.
- Wang, C. L., & Ahmed, P. K. 2004. The development and validation of the organisational innovativeness construct using confirmatory factor analysis. *European Journal of Innovation Management*, 7(4): 303-313.
- Yusof, N., Mohd Shafiei, M. W., Said, I., & Zainul Abidin, N. 2010. Factors influencing firms' readiness towards innovation in house building industry: a multi-dimensional construct. *International Journal of Organizational Innovation*, 2(3): 74-88.
- Yusof, N. A., & Mohd Shafiei, M. W. 2011. Factors Affecting Housing Developers' Readiness to Adopt Innovative Systems. *Housing Studies*, 26(3): 369 - 384.
- Zaheer, A., Rehman, K. U., & Khan, M. A. 2010. Development and testing of a business process orientation model to improve employee and organizational performance. *African Journal of Business Management* 4(2): 149-161.