

# The Significant Effect of Organizational Structure on Private Housing Developers' Involvement in Development of Affordable Housing

Mohd Zulkifli Hassan, Adi Irfan Che Ani, Nor Rima Muhamad Ariff

**Abstract**— *The involvement of housing developers in the development of affordable housing has attained public attention. One of the internal factors influencing the participation of housing developers in the development of affordable housing is its organizational structure. The aim of this study is to analyze the relationship between organizational structure and private housing developers' participation in development of affordable housing. Data for the study are collected from a sample of 352 licensed housing developers that are based in Peninsular Malaysia. The Partial Least Squares Structural Equation Modeling (PLS-SEM) is adopted for data analysis. The results approved the hypothesized immediate effects of organizational structure (formalization and centralization) and private housing developers' participation on the development of affordable housing. The results carry an enormous effect; therefore, its empirical research is developed into the context of affordable housing development.*

**Index Terms:** *Affordable housing, internal factors, organizational structure, housing developers' involvement.*

## I. INTRODUCTION

Housing is a crucial national issue that concerns great deal of political, social, and economic affairs [1]. It is the fundamental social needs too; it is one of the most vital aspects of urban economy growth in any country, the socioeconomic steadfastness of a nation is commonly accountable on the housing affordability of the country. For this particular reason, housing is a treasure that always carries an immense impact on societal prosperity. The society certainly benefits from the act of curbing housing issues that requires the attention of scholars, administering the surge of housing price [2].

Currently, the housing industry of Malaysia is looming significantly reaching new levels, beyond the visions of most industry builders. Due to developing perceptions of ways of living by the population and substantial population growth, the need for development is constantly expanding [3]. In fact, the Government of Malaysia realized that housing is a key human needs and one of the vital mechanisms in urban economy [4]. In accordance to that, the task of catering

housing needs for all residents is designated for The National Housing Policy of Malaysia specifically for those of low-income earner groups [5]. It is the developer's capacity that being the driving factor that ensures housing industry meets the need for low, middle and high earners groups of society. However, in the context of modern dynamic business environment, housing developer capacity are significantly relying on its organizational structures as a critical aspect for the company. The organizational structure apportions managerial machineries and work roles to assist an organization to lead, accomplish and manage its resource flow and business process [6]. Nonetheless, there is an insufficiency of studies concentrating explicitly on the effect of organizational structure on private housing developers' involvement in building economical housing. Ergo, the objective of this study is to assess and verify the magnitude of the significance of the organizational structure on the involvement of private housing developers in the development of affordable housing.

## II. LITERATURE REVIEW

### *Affordable housing*

Affordable housing is construed in various ways. One of the most commonly accepted definitions of affordable house is '... housing that meets some manner of affordability touchstones, it could be the size of the residence, ratio of house price to annual income or income level of the family [7]. The term affordable housing is coined to accommodate to a large group of people living in a diverse environment ranging from low to modest incomes. Affordable housing varies in aspects between regions and its people. The phrase concerns the housing categories for low to medium income groups [8]. For years, affordable housing dilemma has drawn countless researcher's attentions. Discussions on granting affordable housing are infinite, but to establish affordable housing certainly creates challenges in the research realm of housing. To comprehend the concept of budget-friendly housing, the definition and characteristics of affordable housing should be presented first. As demonstrated in literature review, flourishing enthusiasms from heaps of theories have transformed the nature of affordable housing [9].

**Revised Version Manuscript Received on September 16, 2019.**

**Mohd Zulkifli Hassan**, Centre for Innovative Architecture and Built Environment (SErAMBI), Faculty of Engineering and Built Environment, University Kebangsaan Malaysia (UKM), Selangor, Malaysia.

**Adi Irfan Che Ani**, Centre for Innovative Architecture and Built Environment (SErAMBI), Faculty of Engineering and Built Environment, University Kebangsaan Malaysia (UKM), Selangor, Malaysia.

**Nor Rima Muhamad Ariff**, Centre of Studies for Building Surveying, Faculty of Architecture, Planning and Surveying, University Teknologi MARA (UiTM), Selangor, Malaysia.

# The Significant Effect of Organizational Structure on Private Housing Developers' Involvement in Development of Affordable Housing

Recently, in [9] suggests that affordable housing terms adopts a wide-ranging interpretation by incorporating the need for help for low-income households. The most reasonable house implies that the cash to be paid by home buyers to build or purchase a house during a period, may happen without any risk or repercussions.

As proposed by [10], affordable housing is a characteristic of a housing convenience that is associated to home buyer's inclination and covet to purchase a house. Furthermore, as being suggested by the scholars above, affordable housing reflects a relation between housing and population. It demonstrates the cost of buying a home, as well, which is a choice employed by a family between housing and housing-associated matters. Affordable housing is assessed for diverse objectives, such as examining patterns, managing regulations identifying individuals who can enjoy housing subsidies, and meanings, predictions and appointments, contrasting distinct household classes and detailing typical family housing [11].

Recently, a new housing review have been governed by common interests not only among the developers themselves, but also to discern the elemental causes of housing limitations [12]. There are needs to study both of what confines or promotes the growth of hypothetical housing and the comprehension of the motivations and significances of behavioral shift in the industry of household [13].

In Malaysia context particularly, there is no exact definition of 'affordable housing'. PRIMA (Perumahan Rakyat 1 Malaysia - My First Home Scheme) [14] and people's housing program [1] have provided Malaysia's economical housing projects. The people's housing program governed by the National Housing Department involves residences that costing between RM30,000 and RM35,000. At the same time, PRIMA provides assistance to purchase a house with 100% financing for houses costing between RM100,000 and RM400,000 with a 30 years of repayment period that facilitates the youngsters who gains lower than RM15,000 monthly [14].

Additionally, assorted planned actions have been completed to further facilitate the development of economical housing in Malaysia. In the Eleventh Malaysia Plan (2016-2020), the aim of this extent of time was to administer high quality, budget-friendly and sufficient homes for every income classes. Ironically, even after more than 50 years of independence, reasonable housing issues are still significant, chiefly for the lower income group. Hence, the government of Malaysia is still attempting to 'perform steps in all germane ways' to establish progress of each development plan [9].

Due to the growing cost of living in Malaysia especially in urban areas, there is a substantial demand for affordable housing, too [15]. Inexpensive residences are those subsidized houses that are priced below the market price offered to the lower and middle income earners parties under the arrangement of local or state law [16]. Distinct group of people are addressed differently in different countries together with their economical housing policies [15], [16].

## Organizational structure

The impacts of formalization are based on context and may be, positive, negative or neutral [17]. The organizational

structure involves formalization, intricacy and close attention. Most scholars, too concede that the facets of the structure are centralization and formalization, nonetheless, the centralization is a prominent dimension of firm structure elements, ergo, according to a study by [18], it suggests that formalization and centralization as a company's dimension of structure to be examined among developers.

The formalization concerns the magnitude of the work course guide that is transformed and governed the work movement at the particular company. It allows a mutual understanding among employees and permits productive communication within the company circle [6], [18], [19]. The formalization serves as a scaffold for the responsibilities and power among organizational members and to its written forms of methods, directions and standards, too. In addition, in [18] suggests that formalization is delineated as the measure to which decisions and working relationships are administered by formal rules and standard policies and methods in housing development companies, in this study. Meanwhile, in the housing industry context, housing builders that is equipped with formal structures will require particular procedures and approaches that demonstrate what staff members should do [18], [19]. This exercise hampers the staff members of the housing development companies from doing more or different activities, daily. Hence, the hypothesis 1 of the study is as shown in Fig. 1.

## Hypothesis 1:

There is a positive momentous relationship between the structure of the housing developer organization (formalization) and the participation of housing builders in the development of affordable housing.

In [18], [19] propose that centralization works in reverse of the number of decision-making authorities within the organization, and the intensity to which organizational members engage in decision making. This meaning is complex in nature as it comprises both power and engagement [6], [19]. From the context of a huge company with branches and subsidiaries, centralization is a fundamental aspect that discloses how the authorized people decides to share between branches and headquarters. It concerns too, on ways they work as a specialized center and contribute product-specific services [20]. Hence, hypothesis 2 of the study is as shown in Fig. 1.

## Hypothesis 2:

There is a positive significant relationship between the structure of the housing developer organization (centralization) and the participation of housing builders in the development of economical housing.

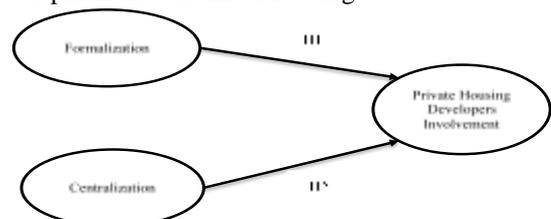


Fig. 1: Conceptual model of study



### III. METHODOLOGY

The questions adopted a 5-point Likert scale. It suggests that the respondents' scores were then interpreted by deducing the scale as following (1 = most unimportant, 2 = unimportant, 3 = slightly important, 4 = important, 5 = most important). The questionnaires were answered by Managing Director, Senior Managers and Manager of the participating companies. The questionnaire was classified into 3 sections; Section A concentrates on questions which relate to the respondents' company profile. Section B contains organizational structure (formalization and centralization) taken from [6], [19]. The final section, i.e. Section C, discusses private housing developer's involvement adapted from [21], [22]. Pilot test was carried out on 100 private housing developers and five experts for validity. Then, minor adjustments were done before the final questionnaires were distributed throughout Peninsular Malaysia to collect data. The proportionate stratified random sampling then being employed to do so. Questionnaire were collected from population and self-governed. A total of 416 questionnaires were assigned and total of 352 responses were gathered (84.6%). Every Cronbach's Alpha ( $\alpha$ ) values acquired throughout this study were above the 0.7 minimum acceptable values (refer Table 1).

**Table 1: Factor loadings and reliability (measurement model result)**

Constructs	Loadings	$\alpha$	CR	AVE
Formal		0.902	0.927	0.719
Fo1	0.859			
Fo2	0.855			
Fo3	0.854			
Fo4	0.819			
Fo5	0.852			
Central		0.892	0.925	0.756
Ce1	0.865			
Ce2	0.908			
Ce3	0.850			
Ce4	0.853			
Involve		0.887	0.916	0.647
In1	0.814			
In2	0.865			
In3	0.863			
In4	0.859			
In5	0.801			
In6	0.589			

Note: (AVE > 0.5, CR > 0.7, loadings > 0.5)

### IV. RESULTS AND ANALYSIS

This section examines organizational information for 352 respondents of private housing developers. Organization information encompasses company size, duration of the company joined the housing industry and respondent's position. Distribution of organizational information is as Table 2. Based on company size, respondents representing smaller sized companies are more than 124 (35.2%) in comparison to 123 (34.9%) large and medium companies of 105 (29.8%).

When studied in terms of the length of the company involved in the housing industry, the largest number of companies participated in the 11 - 15 years' period was 124

(35.2%). Meantime, the second highest place for the company engaged in the housing industry was 21 years or more by 123 (34.9%). Following that, for a period of 6 - 10 years of 70 (19.9%). Then, companies joined the housing industry for the period of 16 - 20 years shown a figure of 18 (5.1%). The lowest is less than 5 years which is 17 companies or 4.8% only.

Respondents recorded as Manager showcased highest participation of 124 persons or 35.2%. This was followed by the Managing Director which recorded as 123 (34.9%). Lastly, the Senior Managers who successfully engaged in this research as 105 or 29.8%.

This study employed Structural Equation Modeling (SEM) method, completed adopting Partial Least Squares (PLS) for its data analysis. The technique allowed the analysis of both measurement model (testing the reliability and validity of measures) and structural model (assessing the relationship among theoretical construct) [23]. PLS is a wise research tool as it demands for a small amount of places and sampling, bears less limiting demands of residual distribution [23], [24]. Our data is analyzed using two steps approach as suggested by [25]. The first step applied the analysis of measurement model while the second step assessed the structural relationship among latent constructs.

**Table 2: Distribution of respondent organization information**

Information	F	%	
Firm size	Small	124	35.2
	Medium	105	29.8
	Large	123	34.9
Duration Involvement	< 5 years	17	4.8
	6 - 10 years	70	19.9
	11 - 15 years	124	35.2
	16 - 20 years	18	5.1
	> 21 years	123	34.9
Respondent's Position	Managing Director	123	34.9
	Senior Managers	105	29.8
	Manager	124	35.2

Note: F – Frequency

#### Measurement model

Measurement model is created with the purpose of examining the degree to which the research items measure what should be measured, its accuracy in representing a construct and will subsequently fulfill the standard of validity and reliability. In an investigation, testing of the measurement model is necessary [24]-[26]. The testing of the measurement model includes internal consistency, indicator reliability and construct validity comprising convergent and discriminant validity. Additionally, as suggested, the other elements of internal validity to be observed are composite reliability [24], [25]. In [24] proposed [24] that the employment of Composite Reliability (CR) as a step to manage any measurement deficiencies while using Cronbach's alpha. As recommended by Chin, the value of the composite validity must surpass 0.7 [24].

In evaluating the model, Fornell and Larcker recommended that item loadings were tested and only those



items that loaded above threshold value of 0.70 were retained. In contrast, the internal consistency was intended by composite reliability, having extended the fulfilled criteria, the minimum is .916 and the maximum is .927. Hence, the entire items in determining model must exhibit plenty convergent and discriminant validity as a condition for establishing how valid the constructs are. Moreover, in analyzing the constructs' Average Variance Extracted (AVE) (Table 1), every value recorded they have met the least requisite of 0.5 [27] with the values that range from .647 to .756 which [25] realizes as satisfactory reliability.

We accepted and described the discriminant validity of constructs based on evaluation between correlation matrix and the square root of AVE across diagonal. By adopting the [27] standard the values of square root of AVE surpassed that of the inter-correlation among the constructs in the model. The discriminant validity decides whether the measures of construct are distinct from one another [23]. Table 3 shows the results of constructs' discriminant validity.

**Table 3: Discriminant validity of latent variables**

Constructs	Ce	Fo	In
Centralization (Ce)	0.869		
Formalization (Fo)	0.530	0.848	
Involvement (In)	0.595	0.710	0.805

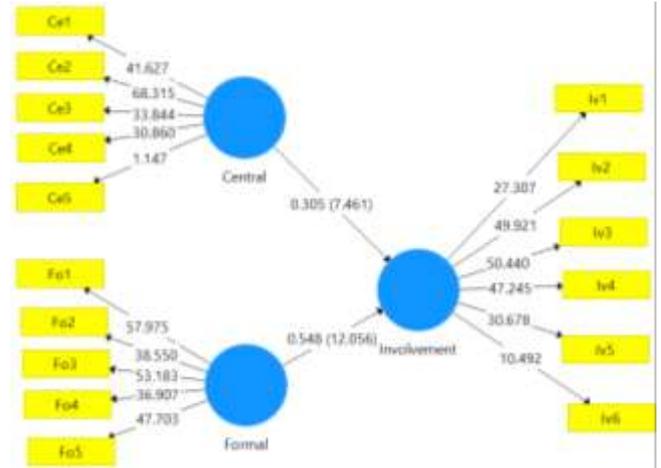
*Structural model*

Partial Least Squares (PLS-SEM) path modelling adopting SmartPLS 3.0 application package [28] was also effective in testing the hypothesis (i.e., Table 4 and Fig. 2). We adapted bootstrapping approach for observed data set to assess the significance of path coefficient (t value) and we also discovered Beta ( $\beta$ ) value to detect path coefficient value. As being forecasted in Hypothesis 1, organizational structure (formalization) is certainly associated to private housing developer's participation ( $t = 12.056, p = 0.000$ ). Hence, hypothesis 1 was supported. This applies to relationship organizational structure (centralization) too, and private housing developer's involvement was significant ( $t = 7.461, p = 0.000$ ). Table 4 exhibits the results of the hypothesis findings. Other than that, the value of the strength of the relationship between the constructs is exemplified by the Beta ( $\beta$ ) value while the value of the contributions of all the variables is seen through the value of  $R^2$ . Chin suggested [23], the value  $R^2 \Rightarrow 0.67$  is strong / high,  $> 0.33 =$  moderate and  $> 0.19$  is weak. In testing the  $R^2$  of the model (involvement), it is proven that the value of 57.1% is classified as moderate strength relationship.

**Table 4: Path analysis and hypothesis testing**

Hypothesis	Relation	Beta ( $\beta$ )	t Values	p Values **	Result
H1	Formal -> Involve	0.548	12.056	0.000	supported
H2	Central -> Involve	0.305	7.461	0.000	supported

**Note: ( $R^2 = 0.571, p^{**} < 0.05, two-tailed = 1.964$ )**



**Fig. 2: Result of the structural model analysis**

**V. DISCUSSION**

The study was completed to test the relationship between organizational structure (formalization and centralization) and private housing developers' involvement in affordable housing. For hypothesis 1, the relationship between organizational structure (formalization) and private housing developer's involvement was supported ( $t = 12.056, p = 0.000$ ). Meanwhile, hypothesis 2 is also consistent as there was a relationship between organizational structure (centralization) and private housing developer's involvement result ( $t = 7.461, p = 0.000$ ).

The element of formalization in this study too, is translated as the degree to show that both choices and working relationships are motivated by procedures and definitive policies in housing companies. From the perspective of the housing industry, housing developers with formal structures will need the creation of particular rules and procedures that lead staff members on what to do. This study proves that there is a positive relationship between both the participation of private housing builders and formalization in the expansion of affordable housing. This leads to a statement that suggests that when these companies have higher formal regulations then they are progressively affected in the development of affordable housing.

The principal objective of this integrated structure within the company is to minimize the probability of error by staff due to insufficient of information or skills, allow them to employ specialized expertise skills, and take control over organizational operations and cultivate homogenous policies, [18]. In the housing industry lens, housing builders who adopts centralized structures, do limit managerial authorities, from the aspect of composing decision and single decision authorities assigned in the hands of chief executive. Therefore, the centralization averts supervisors or managers from becoming flexible or promote the initiative in carrying out their responsibilities. On top of that, in this study the relationship between the centralized organizational structure and the involvement of private housing builders is positive, too. This highlights the fact that when there is a heightened centralization, there is an increment in the private housing



builders partake in the development of economical housing, too.

## VI. CONCLUSION

In this research, we explore the level of the organizational structure (formalization and centralization) and private housing developers' involvement in affordable housing. We adopted proportionate stratified random sampling on 352 licensed private housing developers given by the National Housing Department of Malaysia. Our discovery proves that formalization plays a highly important role while centralization plays a moderately important role among housing developers. This confirms that housing developers in Malaysia can be defined as organizations with formal rules and working relationships and decision-making centers. The practicality of this study lies in the better comprehension of the features of the housing developers. This paper gives a straightforward guide to examining other factors that may impact the involvement of private housing developers in the housing and other industries.

## VII. ACKNOWLEDGMENT

I would like to express my gratitude to the Public Service Department (PSD) for giving me the opportunity to sponsor my studies of Doctor of Philosophy (PhD) at The National University of Malaysia (UKM). Gratitude was also expressed to the National Housing Department and the Ministry of Housing and Local Government as well as housing developers on the absolute cooperation granted in providing information and facilitating the data collection component for this research. Appreciation is also extended to Universiti Teknologi MARA (UiTM) in providing guidance and advice in ensuring that this paper is well-presented

## REFERENCES

1. J. A. Besar, M. Ali, V. W. C. Yew, N. Lyndon, and M. N. S. Ali, "Impak sosioekonomi dan politik program perumahan rakyat Lembah Subang, Selangor (The Socio-economic and political impact of peoples' housing programme in Lembah Subang, Selangor)," *Akademika*, 88(1), 2018, pp. 181-192.
2. S. Baqutaya, A. S. Ariffin, and F. Raji, "Affordable housing policy: Issues and challenges among middle-income groups," *International Journal of Social Science and Humanity*, 6(6), 2016, pp. 433-436.
3. S. P. S. A. Bakar and M. Jaafar, "Achieving business success through land banking and market analysis: Perspectives of Malaysian private housing developers," *Property Management*, 36(5), 2018, pp. 562-574.
4. N. M. Tawil, M. S. Shuhaida, N. Hamzah, A. I. Che-Ani, and M. M. Tahir, "Housing affordability in two university towns in Selangor, Malaysia," *Recent Research in Chemistry, Biology, Environment and Culture*, 2015, pp. 70-74.
5. M. Q. Oleiwi, M. F. Mohamed, A. I. Che-Ani, and N. R. Sudharshan, "Sustainability of industrialised building system for housing in Malaysia," *Proceedings of the Institution of Civil Engineers-Engineering Sustainability*, 171(6), 2017, pp. 304-313.
6. F. Kalay and G. S. Lynn, "The impact of organizational structure on management innovation: An empirical research in Turkey," *Journal of Business Economics and Finance*, 5(1), 2016, pp. 125-37.
7. A. M. J. Esruq-Labin, A. R. Salleh, H. Omar, A. I. Che-Ani, and N. M. Tawil, "Affordable housing performance assessment: Applying the concept of grow home as one of the measurement criteria," *Akademika*, 86(2), 2016, pp. 125-136.
8. A. H. Chohan, A. I. Che-Ani, K. S. Bhai, J. Awad, A. Jawaid, and N. M. Tawil, "A model of housing quality determinants (HQD) for affordable housing," *Journal of Construction in Developing Countries*, 20(1), 2015, pp. 117-136.
9. A. Ebekozen, A. R. Abdul-Aziz, and M. Jaafar, "Low-cost housing leakages in Malaysia: The unexplored dimension," *Pacific Rim Property Research Journal*, 24(3), 2018, pp. 249-264.
10. W. Shi, C. Jie, and W. Hongwei, "Affordable housing policy in China: New developments and new challenges," *Habitat International*, 54, 2016, pp. 224-233.
11. E. Mulliner, M. Naglis, and V. Maliene, "Comparative analysis of MCDM methods for the assessment of sustainable housing affordability," *Omega*, 59, 2016, pp. 146-156.
12. M. Ball and A. Nanda, "Does infrastructure investment stimulate building supply? The case of the English regions," *Regional Studies*, 48(3), 2014, pp.425-438.
13. S. Payne, "Advancing understandings of housing supply constraints: Housing market recovery and institutional transitions in British speculative housebuilding," *Housing Studies*, 2019, pp. 1-24.
14. A. M. J. E. Labin, A. I. Che-Ani, and S. N. Kamaruzzaman, "Affordable housing performance indicators for landed houses in the central region of Malaysia," *Modern Applied Science*, 8(6), 2014, pp. 1-19.
15. A. A. Bujang, W. R. A. Jiram, H. A. Zarin, and F. H. Md Anuar, "Measuring the Gen Y housing affordability problem," *International Journal of Trade, Economics and Finance*, 6(1), 2015, pp. 22-26.
16. N. H. A. Maimun, S. Ismail, M. Junainah, M. N. Razali, M. Z. Tarmidi, and N. H. Idris, "An integrated framework for affordable housing demand projection and site selection," *IOP Conference Series: Earth and Environmental Science*, IOP Publishing, 169(1), 2018, pp. 1-8.
17. W. Kaufmann, E. L. Borry, and L. D. Davis, "More than pathological formalization: Understanding organizational structure and red tape," *Public Administration Review*, 79(2), 2019, pp. 236-245.
18. A. M. Kamaruddeen, N. Yusof, and I. Said, "Structural, operational and market related features among housing developers in Malaysia," *Jurnal Teknologi*, 77(5), 2015, pp. 69-78.
19. A. Caruana, M. Morris, and A. Vella, "The effect of centralization and formalization on entrepreneurship in export firms," *Journal of Small Business Management*, 36(1), 1998, pp. 17-29.
20. G. Jones and C. Pitelis, "Entrepreneurial imagination and a demand and supply-side perspective on the MNE and cross-border organization," *Journal of International Management*, 21(4), 2015, pp. 309-321.
21. A. S. Carr and J. N. Pearson, "The impact of purchasing and supplier involvement on strategic purchasing and its impact on firm's performance," *International Journal of Operations and Production Management*, 22(9), 2002, pp. 1032-1053.
22. N. Yusof, A. N. Zainul, Z. S. H. Mohamad, K. Govindan, and M. Iranmanesh, "Linking the environmental practice of construction firms and the environmental behaviour of practitioners in construction projects," *Journal of Cleaner*

- Production, 121, 2016, pp. 64-71.
23. W. S. Lin, "Perceived fit and satisfaction on web learning performance: IS continuance intention and task-technology fit perspectives," *International Journal of Human-Computer Studies*, 70(7), 2012, pp. 498-507.
  24. W. W. Chin, "How to write up and report PLS analyses," in *Handbook of Partial Least Squares*, V. V. Esposito, W. W. Chin, J. Henseler and H. Wang, Eds. Berlin: Springer, 2010, pp. 655-690.
  25. J. F. Hair Jr, G. T. M. Hult, C. Ringle, and M. Sarstedt, *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. California: Sage Publications, 2016.
  26. D. Straub, M. C. Boudreau, and G. David, "Validation guidelines for IS positivist research," *Communications of the Association for Information Systems*, 13(1), 2004, pp. 380-427.
  27. C. Fornell and D. F. Larcker, "Evaluating structural equation models with unobservable variables and measurement error," *Journal of Marketing Research*, 18(1), 1981, pp. 39-50.
  28. J. F. Hair Jr, L. M. Matthews, R. L. Matthews, and M. Sarstedt, "PLS-SEM or CB-SEM: Updated guidelines on which method to use," *International Journal of Multivariate Data Analysis*, 1(2), 2017, pp. 107-123.