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The Correlation between External Factors and Housing Developers' Involvement in Affordable Housing: An Importance-Performance Matrix Analysis (IPMA)

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Abstract

Researchers in many countries have been focusing on the issue of affordable housing. Influenced by numerous factors, several researchers have begun to review the problems connected with the involvement of private housing developers within the growth of affordable real estate. Accordingly, this research attempted to analyse the relationship between these external factors and private residences developers' partaking to build inexpensive homes. For this analysis, a sample of 352 licensed real estate developer in Peninsular Malaysia was used as data. Throughout the investigation, Partial Least Squares Structural Equation Modeling (PLS-SEM) and SmartPLS 3.0 were applied. External factors (competition, housing policy, the housing market, and financial availability), as well as the private residence builders' involvement to constitute cost-effective homes, was verified to manifest a correlation. Furthermore, this has also revealed that external factors are of great importance and reliability for the housing developers' involvement in affordable housing.

Keywords: *external factors, housing developers' involvement, affordable housing, importance-performance matrix analysis (IPMA)*

1. Introduction

Housing is an asset that consistently produced a massive impact on an individual's resources [10]. Since it concerns the holistic demands of the people, the subject of the house becomes a constant dispute. The people's prosperity should be rendered precedence and centre for a nation to be considered as a developed country. The well-to-do people can possess a massive impact on the nation's advancement. Accordingly, the regard for housing should be highlighted. Besides, Malaysia's governance admitted that in the contemporary marketplace, real estate is a critical ingredient and an elemental social interest [20]. Therefore, in [18] stated that the commitment to satisfying the housing demands to be started. It is especially vital for low-income earners in the Malaysian National Housing Policy. In an attempt to ensure that housing resources mainly include sufficient affordable housing, private housing developers must be more actively involved. Since most of the developers concentrate solely on profits, the affordable residential matter in the setting of private housing builders' commitment must be highlighted. Consequently, this research endeavored to examine the correlation between external constituents that influence private housing builders' involvement in the establishment of the affordable residences by reviewing the Importance-Performance Matrix Analysis (IPMA).

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2. Literature Review

This section confers the following aspects:

2.1. Affordable Housing

There are methods to establish affordable housing. One notion of affordable housing is the one that satisfies sustainability. It manifests in forms of the home price ratio, residential dimension, or even the family level [2]. Further, affordable house diversifies between nations and their citizens. It corresponds to housing categories for low to medium-earners societies [1]. Nonetheless, the economic dwelling predicament has captivated the awareness of diverse researchers. There have been recurring arguments on affordable lodging, and numerous dilemmas occur in the housing research domain. Initially, one must address the explanation and features of an economical house to recognise the sense of budget-friendly accommodation [10].

2.2. Housing Market

In [24] suggested that the preponderance of developers overlooks the actual market for specific kinds of housing because they solely avail from improved economic enterprise among the population. Market analysis is a technique to recognise demand and supply designs for competitive benefits and product marketability over the competitors. It is deemed as a hurdle for real estate developers before beginning on a project since it incorporates feasibility investigations and particular industry views [3]. In this paper, the researchers endeavored to affordable housing. Hypothesis as followed, and Figure 1.

Hypothesis 1: There is a robust and vital correlation between the housing market and housing developers' involvement in constructing affordable housing.

2.3. Housing Competition

The home business is ambitious [3]. Private housing developers carry ideas that weigh on the pursuits that encourage companies to exceed their competitors by transforming possibilities into aggressive returns [12]. Competitiveness defines the survival of an organisation based on its resources and capabilities. There is also an opinion that proposed property developers have to be capable of identifying their opponents' forces and vulnerabilities by following their operations [3]. Therefore, housing developers must pay attention to the complete sense of the physical setting in comparison to transforming it into internal issues to overcome rivals. Thus, Hypothesis 2 is developed as below and manifested in Figure 1.

Hypothesis 2: There is also a significant correlation regarding housing competition and housing developers' involvement in establishing affordable housing.

2.4. Financial Availability

Typically, to provide funding for affordable housing projects, housing developers hold their capital or raise capital by banks or financial institutes. In [19] proposed that the financial restriction for businesses that fund their activities by bank loans requires the purchase of equity from financial markets. It is due to the time limitations linked with the likelihood of obtaining more powerful financial support from the market in a thriving commercial distribution. Primarily related to the availability of their financial resources, firms generally may not be advisable to invest. Nevertheless, more proactive and innovative firms may try to achieve advancement possibilities that rely on their entrepreneurial capacities that can be stoked up by financial imbalance [19]. Therefore, in [21] maintained that depending on the funding requirements of the project, companies must be capable of providing company funding or being qualified to secure project sponsorship to join and support themselves. Therefore, this research confirmed the relationship between the financial convenience of housing and the private housing developers' participation in producing affordable homes. Hypothesis 3, as shown below and in Figure 1.

Hypothesis 3: There is also a vital relationship between financial availability and property developers' involvement in the production of affordable housing.

2.5. Housing Policy

In Malaysia, housing policy has changed over the years through its national future development. The main instrument of housing policy is massive government intervention, but housing and land market regulations have made supply responses extremely unpredictable and stimulated requirements. Price controls on new apartments, for instance, diminished by private housing developers and concessions, have vastly increased demand, specifically for extensive residential facilities [7]. In the private domain, Malaysia has become a strong example of the government's involvement in promoting affordable housing among low- and medium-income citizens. Whereas, the government deliberately intervenes in the establishment of laws, goals, and inducements / perverse incentives. Nevertheless, in Malaysia, even with the government's multiple restraints and controls, the private domain represents a vital function in designating houses. The government has implemented a standard housing policy instrument requesting private housing developers to construct a portion of the minimal-income home for each high- or middle-earners housing scheme to secure viable residence advancement for varying income crowds [22]. Therefore, the hypothesis is formed as follows and is provided in Figure 1.

Hypothesis 4: There is a negative correlation between housing policy and private developers' involvement in affordable housing.

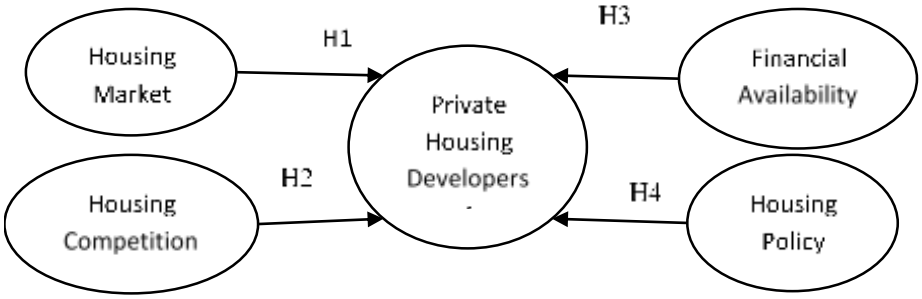

Figure 1: Research Model

3. Methodology

Questionnaires are provided to facilitate the uniformity of observation and implementation of the data discovery process. To ensure the questionnaires was clear and quality, the researcher conducted a validation questionnaire with academics and industry practitioners before distributed it [14]. There were six sections in the questionnaires of this research where Part I aimed to obtain organisational information, and Part II focused on the housing market containing six items adapted from [13]. There were four items in both Part III and IV, targeted on financial availability [11] and housing competition [13], respectively. Part V concentrated on housing policy [consisted of six items adapted from [15], [17] whereas Part VI aimed at private housing developers' involvement which was adapted from [23], [4]. The scores were interpreted by deducing the Likert scales (most insignificant= 1, insignificant= 2, relatively significant= 3, significant= 4, most significant= 5) in the questionnaires. The target groups of the questionnaires were the Manager, Senior Managers, and Managing Director of the contributing organisations. This study will present the reliability and validity of this questionnaire analysis' data. Reliability of the data can be seen through the Cronbach Alpha's value and the respondent reliability [14]. The survey with a total of 416 was distributed and received responses of 352 (84.6%). The values of the Cronbach's Alpha (α) captured in this research were beyond 0.7, which is the minimum acceptable value for Cronbach's Alpha (α), as presented in Table 1.

Table 1: Constructs Reliability and Validity

Constructs	Cronbach's Alpha (α)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Housing Market	0.868	0.903	0.616
Housing Competition	0.867	0.909	0.714
Financial Availability	0.767	0.850	0.590
Housing Policy	0.794	0.865	0.611
Housing Involvement	0.887	0.916	0.647

(AVE > 0.5, CR > 0.7, α > 0.7)

4. Results and Discussion

The data from the 352 participants were appraised in this division. It comprises private housing developers. Information about the organisation includes firm size, the company's annual profit, total home unit sales (yearly), the time that the firm implicated in the housing sector, and the position of the respondent. For data interpretation, partial least squares (PLS), as well as structural equation modelling (SEM), were operated. This method was chosen because it presents the report both for the model of measurement (evaluate the measurement's validity and reliability)–not discussed in this paper) and the model of structural (examine the correlation between the theoretical constructs) [16]. As suggested by [8], the data were analysed using a two-step method. Analysis of the measurement model (not discussed in this paper) is the first step for the method, and measuring the structural relationship between latent constructs is the second step. Additionally, to decide the external elements' consequence on the home builders' commitment towards affordable housing, the Importance-Performance Matrix Analysis (IPMA) was examined.

4.1. Structural Model

To examine the hypothesis (i.e., Table 2 and Figure 2, respectively), as being proposed by [9], the Partial Least Squares' modelling (PLS-SEM) path operating the Smart PLS 3.0 application was made. On the observed data set, the bootstrapping approach was used to appraise the significant path coefficient (t value), as well as the value (β) to observe path coefficient value. Hypothesis 1 forecasted that the housing market was significantly linked to the presence of private housing developers (β= 0.351, p= 0.000). The data supported Hypothesis 1 and attested that it would affect the appearance of the housing companies in the establishment of low-cost housing as the housing market grows. Further, hypothesis 2 was confirmed because the relationship between housing rivalry and the participation of private home firms in the construction of the affordable residence was (β = 0.249, p = 0.000).

Housing competition among private housing developers can also lead to an increase in their involvement for affordable house's production. Hypothesis 3 was also accepted because the correlation between financial availability and the private housing developers' involvement is also significant (β = 0.234, p = 0.000). When added support is accessible, the involvement among private properties corporations for affordable residences too grows. Availability was determined by the real estate developer or the financial institution, as well as the government.

As for Hypothesis 4, housing policy is strongly related to the involvement of private housing developers (β = -0.113, p = 0.002), supports Hypothesis 4. Table 2 shows the findings for the hypothesis. Besides, the value of beta (β) revealed the intensity value for correlation for the constructs. Also, the value of R^2 defined variables value contributions. The value of R2 = > 0.67 (high / strong), > 0.33 (moderate), and > 0.19 (weak) according to Chin (1998). The value of 68.1% implies a partnership of high intensity when analysing the R^2 of the model (involvement). External factors such as the availability of financing, housing market, competition, and policy of the housing affect private residences' companies' engagement in the building of affordable housing.

Table 2: Structural Model Analysis Results

Hypothesis	Relationship	Beta (β)	t Value	p Value	Results
H1	Market -> Involvement	0.351	6.006	0.000	Supported
H2	Competition -> Involvement	0.249	3.618	0.000	Supported
H3	Financial -> Involvement	0.234	3.540	0.000	Supported
H4	Policy -> Involvement	-0.113	3.159	0.002	Supported

(R^2 = 0.681, p** < 0.05, two-tailed = 1.964)

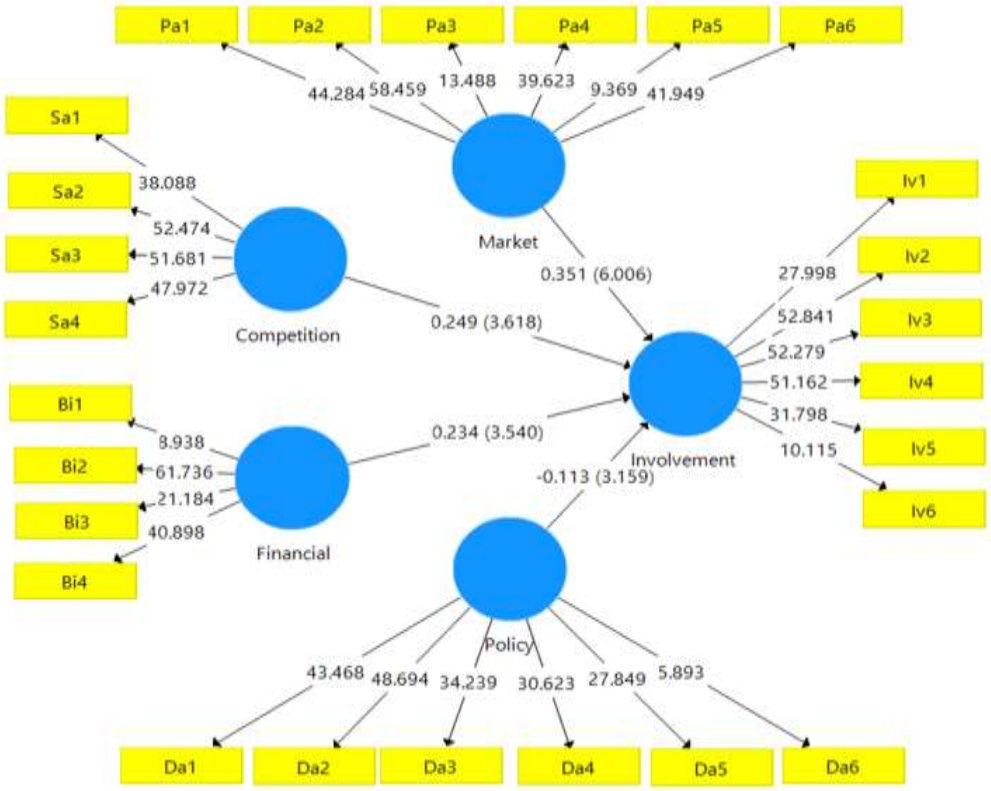

Figure 2: Structural Model Analysis Result

4.2. Importance - Performance Matrix Analysis (IPMA)

The authors collect all the results of performance and importance in Table 3 to highlight the key to performance-importance matrix analysis. The finding shows that the most critical variable is the housing market, and after that is the housing competition, financial availability, and housing policy. Even though housing competition is the most significant, one can conclude that housing competition, the housing market, and financial availability is the most essential and crucial variable for housing developers' involvement in affordable housing (Quadrant I in Figure 3). In other words, external factors in Quadrant I, named "Keep up the good work," are categorised by a high-performance level and a high importance level. Figure 3 also shown the housing policy stated in Quadrant III, referred to as "Low priority," is the combination of low performance with low importance. Housing policies in this Quadrant do not warrant particular attention or extra effort.

Table 3: IPMA Result

Construct	Involvement (Total Effect)	Performance (Index Values)
Competition	0.249	3.822
Financial	0.234	3.738
Market	0.351	3.802
Policy	-0.113	2.136

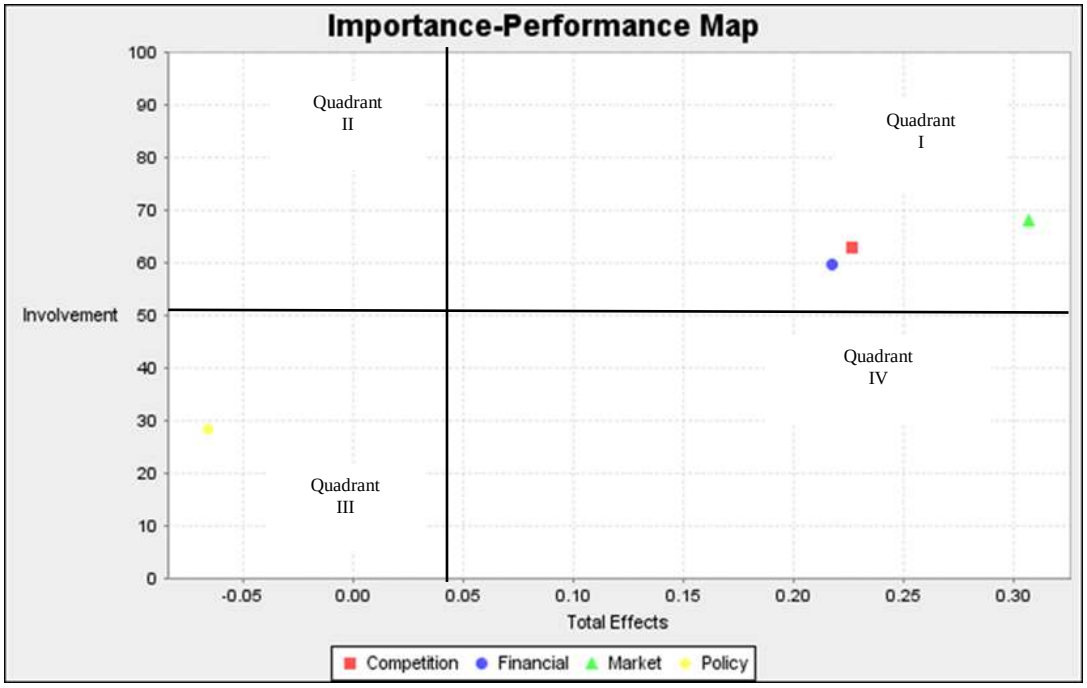

Figure 3: IPMA Analysis Result

5. Conclusion

In this research, the relationship was evaluated between the external factors (the housing market, financial availability, housing competition, and housing policy) and the private housing's developers partaking of affordable house. This analysis implemented a proportionate stratified random sampling among 352 authorised private residence companies. On the underpinnings of this analysis, in affordable home's domain, there is already a significant correlation between external factors (the housing market, availability of financing, housing policy and housing competition) with private residential companies' significance. Nevertheless, it is indisputable that other external factors could affect private housing companies' participation in establishing affordable housing.

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