RESIDENTIAL SATISFACTION ASSESSMENT IN PUBLIC AND PRIVATE HOUSING SCHEMES: EXPERIENCE FROM COLOMBO SUBURBS

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ABSTRACT

Housing is not just one of the most basic human needs, but it also serves as an indicator of the population's living standards. The satisfactory housing with adequate facilities meets the quality standards, users' expectations and aspirations. When the government built public houses eventually the private sector also tends to build their own housing schemes to reside people. However, there is an issue regarding the satisfactory housing indicates the residents' quality of living with residential satisfaction. Therefore, the study evaluated the residential satisfaction that means from meeting a need or goal in public housing scheme and private housing scheme in Colombo Municipal Council limits, Sri Lanka. The study measures the residential satisfaction through three indicators which were; dwelling unit feature and quality, housing supportive services and neighborhood environment. Convenient sampling adopted to select 100 households to conduct the questionnaire survey in both housing schemes. SmartPLS was used to get the quantitative findings of the study. In private housing schemes, residents are more satisfied with dwelling unit features and the housing supportive services are significantly influenced for the residential satisfaction. In public housing scheme, the residents are satisfied on neighborhood environment which makes the positive influence for the residential satisfaction. Therefore, as per the findings, it adds value to the field of research in the residential setting. In addition, this research is essential to guide the improvement of residents' satisfaction in future housing development projects in Sri Lanka.

Keywords: Residential Satisfaction, Dwelling Unit Feature Quality, Housing Support Services, Neighborhood Environment, Public and Private Housing

1. INTRODUCTION

Housing is a simple residential space which is driven the changes of quality of life. Housing is not an individual unit but also it is the combination of social and physical components which made the housing systems to facilitate adequate housing need (Mohit & Azim, 2012; Raja & Mohit, 2014). The adequate quality housing always meets the residents' expectations and aspirations while adhering to the government's quality standards (Mohit & Azim, 2012). However, the provision of adequate housing in a satisfactory level is a major problem and the worse situation facing specially by the developing country context (Byun & Ha, 2016; Etminani- Ghasrodashti et al., 2017). This can be occurred because of the ongoing influx of people to urban areas, this problem may grow in the future.

There is a requirement of adequate housing in Colombo due to vast urban agglomeration with expansion of population. Therefore, adequate housing provision in Sri Lanka especially in Colombo is more concerned on satisfactory residential environment with elements of comfort,

protection, and the friendly community (De Silva, 2015). As a result, adequate housing provision in Sri Lanka, particularly in Colombo is mutually contributed with private and public sector. It is primarily focused with a satisfactory environment that includes features of comfortable facilities, security, and the friendly community (Zainudeen et al., 2006; Jayarathna & Wickramaarachchi, 2020). However, the provision of quality housing with the required residential satisfaction is one of the most significant issues and a growing concern facing in Colombo (Jayarathna & Wickramaarachchi, 2020). Therefore, the study aims to evaluate residential satisfaction in public and private housing in Colombo Municipal Council area by considering three aspects such as dwelling unit feature quality, housing supportive services and neighborhood environment. It is useful to satisfactory housing provision in future housing development projects in Sri Lanka.

2. LITERATURE REVIEW

Different ambitions, residents' current necessities of living surroundings, attitudes of housing layout and aspirations were all examined in the study on residential satisfaction (Fang, 2006; Mohit & Nazyddah, 2011) and their nature of life (Lee & Park, 2010). Residential satisfaction in housing is a combination of several variables, including standards and regulations of construction materials of the neighborhood and environmental conditions (Raja & Mohit, 2014). Therefore, residents were pleased with the supply of various factors in various levels can be influenced for the residential satisfaction. Those were indicated as housing unit quality, neighborhood quality, management services, supportive services and facilities within the building structure and their surrounding (Salleh, 2008; Mohit & Azim, 2012; Tao et al., 2014). According to Mohit & Azim (2012); Raja & Mohit (2014), Housing unit character and quality were more important drivers of residential satisfaction. Housing satisfaction is said to be influenced by the physical characteristics of the dwelling unit. The size of the kitchen, the laundry and hand washing spaces, the size of the living room and dining room, the living room design, the number of bedrooms and bathrooms, the safety, privacy, and ventilation of houses are all physical housing characteristics (Parkes et al., 2002; Baum et al.,2005; Hipp, 2010; Raja & Mohit, 2014) . Housing supportive services can be described as systems installed in a building to meet the needs of the residents who live in the building. The supportive services and public facilities provided have had major effects on overall residential satisfaction (Mohit & Azim, 2012; Tao et al., 2014). In housing development, the completion of repairs and insuring terms are attached with the housing owners, it is expected that the repairs and maintenance of common facilities such as water supply, sewerage facilities which are combined with the housing supportive services (Ajayi et al. 2015) will influence the amount of satisfaction with the housing environment (Riratanapong & Limjarosensuk, 2020). Neighborhood satisfaction is described as an assessment of how well neighborhood settings are satisfying inhabitants' ambitions, needs, and expectations by making them happy in their surroundings. Physical factors such as landscapes, street lights, congestion and noise levels, closeness of neighborhood amenities, healthcare, community settings, and open space quality were explicitly established as neighborhood environment satisfaction prediction indicators (Lovejoy et al., 2010; Raja & Mohit, 2014; Somiah et al., 2017).

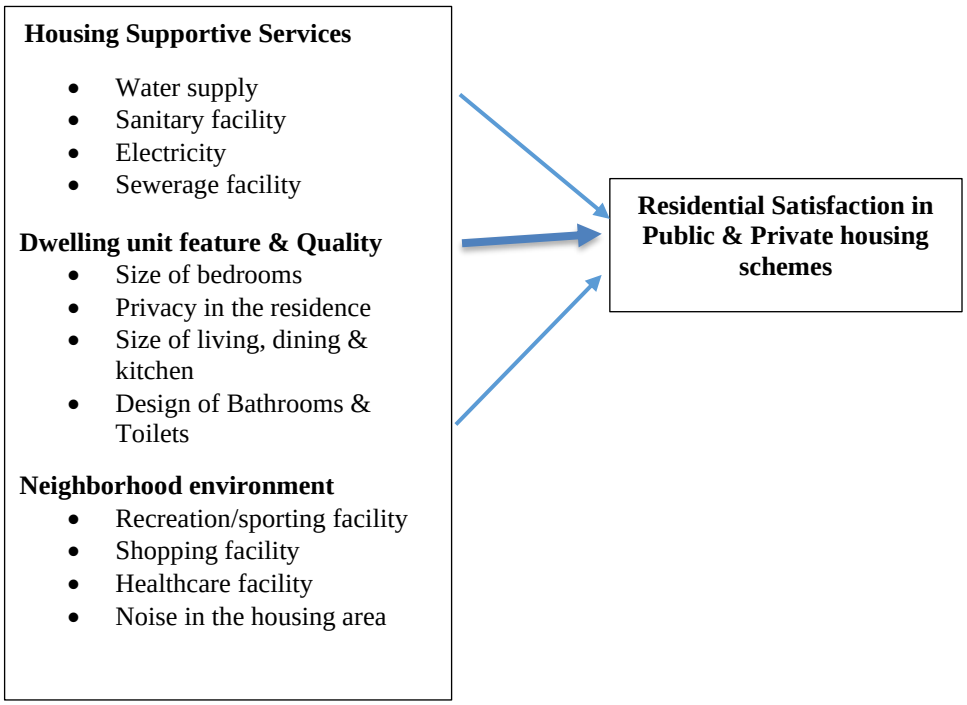
Many researchers have developed residential satisfaction models supported factors that are relevant to the context and according to the purpose of the research (Karunasena & Ranathunga, 2009; Mohit & Azim, 2012; Mohit & Raja, 2014; Byun & Ha, 2016; Somiah et al., 2017). According to the preceding literature review, several factors are used to evaluate residential satisfaction, with a focus on public housing rather than private housing. As a result, prior research did not distinguish between residents' satisfaction with public and private housing based on the three factors studied. Therefore, to address the research gap, this study considers characteristics such as dwelling unit feature and quality, dwelling unit support

services, and neighborhood environment to assess residential satisfaction within the Colombo Municipal Council area.

3. METHODS

The above-mentioned research objective was achieved through the quantitative research approach. The Colombo MC boundaries were chosen as the case study area, with private housing schemes (case A) in Boralasgamuwa and public housing schemes (case B) in Orugodawatta. Convenient sampling approach was utilized to select 100 sample from target population of residents in public and private housing schemes. The data collection method based on the structured questionnaire survey consists with the characteristics of dwelling unit feature and quality, housing supportive services and neighborhood environment features. These independent variables of the study determined the dependent variable of residential satisfaction in both housing schemes. Smart PLS has used for the analysis of this study which is ideal tool to analyze the collected data in the study of measuring the residential satisfaction using Measurement model (outer model) and Structural model (inner model).

Figure 1: Conceptual framework for assessing residential satisfaction



Source: Author constructed (2020)

Accordingly, the following hypotheses were developed in the study.

H1: There is a positive and significant relationship between dwellers' satisfaction and dwelling unit feature quality in public housing schemes.

H2: There is a positive and significant relationship between dwellers' satisfaction and housing support services in public housing schemes.

H3: There is a positive and significant relationship between dwellers' satisfaction and neighborhood environment in public housing schemes.

H4: There is a positive and significant relationship between dwellers' satisfaction and dwelling unit feature quality in private housing schemes.

H5: There is a positive and significant relationship between dwellers' satisfaction and housing support services in private housing schemes.
H6: There is a positive and significant relationship between dwellers' satisfaction and neighborhood environment in private housing schemes.

4. RESULTS AND DISCUSSION

4.1 Evaluation of Measurement Model

A reflective measurement model was used to assess the constructs' reliability and validity of the study. The constructs entail Dwelling Unit Feature Quality (DUFQ), Dwelling Unit Supporting Services (DUSS), Neighborhood Environment (NE) and Overall Satisfaction (OS) for Public and Private Housing. The validity test assesses the instrument's quality and the accuracy, whereas the reliability test demonstrates the consistency of measuring devices. Hair et al. (2011) suggested factor loading, Composite Reliability (CR), and Average Variance Extracted (AVE) are few measures to determine convergent validity and reliability. The factorial loading of all the constructs is more generous than 0.5 with the significant P values (Hair et al., 2011). For public sector housing, factor loadings varied from 0.74 to 0.94, while private sector housing factor loadings ranged from 0.73 to 0.99 (Refer Table 1). According to CR value of constructs more than 0.7, which is considered an acceptable threshold (Hair et al., 2011). In this study, the CR values ranged from 0.91 to 0.92 for public sector housing and 0.92 to 0.97 for private sector housing, indicating that the necessary limit had been surpassed. The Average Extracted Variances (AVE) advocated that the constructs' values should be more than 0.5, indicating that the measurement correlates positively with other measures of the same construct value. As per the table 04, the AVE values are reflected the range of 0.65 to 0.79 for public sector housing and range from 0.79 to 0.83 for private sector housing which indicating the required limit was exceeded in the model.

Table 1: Assessment results of the measurement model

Construct	Item	Loading		CR		AVE	
		(Public)	(Private)	(Public)	(Private)	(Public)	(Private)
Dwelling Unit Feature Quality (DUFQ)				0.919	0.965	0.654	0.797
	DUFQ1	0.748	0.870				
	DUFQ2	0.814	0.894				
	DUFQ3	0.824	0.926				
	DUFQ4	0.795	0.921				
	DUFQ5	0.833	0.863				
	DUFQ6	0.807	0.904				
	DUFQ7	0.857	0.870				
	DUFQ8	0.789	0.895				

Dwelling Unit Supporting Services (DUSS)				0.922	0.927	0.748	0.810
	DUSS1	0.860	0.946				
	DUSS2	00858	0.972				
	DUSS3	0.886	0.954				
	DUSS4	0.856	0.758				
Neighborhood Environment (NE)				0.919	0.976	0.792	0.834
	NE1	0.815	0.909				
	NE2	0.810	0.947				
	NE3	0.907	0.932				
	NE4	0.948	0.942				
	NE5	0.836	0.890				
	NE6	0.915	0.929				
	NE7	0.889	0.932				
	NE8	0.937	0.819				
Overall Satisfaction (OS)				0.921	0.972	0.788	0.827
	OSDUFQ	0.732	0.819				
	OSDUSS	0.884	0.995				
	OSNE	0.775	0.733				

Source: Survey data 2020

Discriminant validity is the extent to which a construct is truly distinct from other constructs using square root of AVE. To get discriminant validity, each construct's AVE (Average Variance Extracted) should be greater than its greatest correlation with any other construct. According to the discriminant validity results, table 2 (Public housing) and 3 (Private housing) present the square roots of the AVEs for the diagonal constructs, as well as the correlations between the constructs. Consequently, the model exhibits satisfactory discriminant validity for both perspectives.

Table 2: Discriminant validity (Public housing schemes)

Constructs	DUFQ	DUSS	NE	OS
DUFQ	0.798			
DUSS	0.625	0.832		
NE	0.579	0.583	0.775	

OS	0.689	0.608	0.704	0.732

Source: Survey data 2020

Table 3: Discriminant validity (Private housing schemes)

Constructs	DUFQ	DUSS	NE	OS
DUFQ	0.842			
DUSS	0.747	0.832		
NE	0.681	0.504	0.775	
OS	0.543	0.718	0.758	0.811

Source: Survey data 2020

4.2 Evaluation of Structural Model

Each unique hypothesis is associated with a causal connection in the structural model, which depicts the relationship between components operationalized as construct. The path coefficients, as well as the accompanying P and T values, have been determined for each causal connection in the models. The path coefficients should be considerable, and R^2 relies greatly on the behavioral research field. Therefore, R^2 were 0.379 for public housing and 0.328 for private housing, were in high and acceptable level.

According to table 4, the hypothesis was accepted when the significant (P value) is 0.05 or less, if the value is more than 0.05, the hypothesis were rejected. The results indicated that Dwelling Unit Feature Quality (DUFQ) and Dwelling Unit Supporting Services (DUSS) have a positive and significant effect on dwellers' overall satisfaction of private sector housing schemes. Therefore, the outcomes of the study supported H4 and H5. However, the Neighborhood Environment (NE) has no significant effect towards the residential satisfaction in private housing scheme, not supported for H6 in the study. Conversely, Neighborhood Environment (NE) has a positive and significant impact on residents' overall satisfaction with public housing schemes, supported with H3. Even though, the factors of Dwelling Unit Feature Quality (DUFQ) and Dwelling Unit Supporting Services (DUSS) non-significant on dwellers' overall satisfaction of public sector housing schemes, in which resulted P value higher than 0.05. Therefore, the results were excluded H1 and H2.

Table 4: Results of hypothesis testing

	Path	Path Coefficient	P Values	T Statistics	Supported
H1	DUFQ $\longrightarrow$ Satisfaction (Public)	0.040	0.129	0.112	No
H2	DUSS $\longrightarrow$ Satisfaction (Public)	0.096	0.315	0.012	No
H3	NE $\longrightarrow$ Satisfaction (Public)	0.272	0.031	2.143	Yes
H4	DUFQ $\longrightarrow$ Satisfaction (Private)	0.622	0.005	7.788	Yes
H5	DUSS $\longrightarrow$ Satisfaction (Private)	0.488	0.000	9.159	Yes
H6	NE $\longrightarrow$ Satisfaction (Private)	0.015	0.289	0.090	No

Source: Survey data 2020

5. CONCLUSION AND RECOMMENDATION

This study aims to evaluate the residential satisfaction in public and private housing schemes in Colombo MC Area. The findings reveal that residents in public housing schemes are satisfied with neighborhood environment features (NE), but not with the other two

components that have a positive effect on residential satisfaction with the scheme. The residents in social housing developments are satisfied with the availability of medical facilities, shops, banks, and post offices (Ha, 2008) recreational facilities and the surrounding noises (Lovejoy et al., 2010; Raja & Mohit, 2014; Somiah et al., 2017) tally with the findings of the study. Every participant of the private housing scheme has a positive impression of each dwelling unit's features and quality (DUFQ) and dwelling unit supportive service (DUSS) that have significant impact on residential satisfaction. Housing styles, size and quality of bedrooms, kitchens, and baths (Clarke et al., 2008), privacy in the residence (Raja & Mohit, 2014) employed as physical qualities that influence for more residential satisfaction. Consequently, the supportive services and public facilities provided have had major effects on overall residential satisfaction (Mohit & Azim, 2012; Tao et al., 2014). However, the neighborhood facilities in the private scheme shows insignificant and are not in a satisfactory level.

It can be recommended that by considering all the findings it is a necessity to improve the housing supportive services with enhancing the quality of dwelling unit features in public housing scheme development projects. In addition, the private housing development need to more consider on neighborhood environment features. In future planning context in Sri Lanka, these were shown to maximize residential satisfaction.

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