An Analysis of Influence Factors in Choosing High-Rise Residential in Kuala Lumpur, Malaysia

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Abstract: Living in Kuala Lumpuras city centre of Malaysia,leads shortage of choice for residents in choosing type of house. In this study, fuzzy conjoint model was used,in discussing the result of high-rise residential schemes in Kuala Lumpur. This study purposely done to find the root cause of difficulies in collecting service charge. Previous study on residential schemes in Malaysia found that 50% of housing complex obtain less than 50% payment of service charge, whereas no complex gets collection above 80%. In the other words, 100% collect less than 80%.The survey were conducted among 750 residents who own and stay in their own unit from 150 schemes of high-rise. It also limited to the unit with the price RM250,000 and below. The analysis used to analyse the survey is fuzzy conjoint model where the result were presented in linguistic value of 'influence'. The result shows that affordability was the most influence factor with linguistic value of 'very influence' with score of 0.4651   followed by location and transportation facilities in choosing high-rise residential in city centre of Kuala Lumpur. Whereas management and adore of high rise living at the bottom line of linguistic value of only 'quiet influence'

Key-Words: High-rise housing management, High-rise residential, Fuzzy conjoint model, Fuzzy linguistic, Management corporation

1   Introduction

The incease of land prices especially in urban areas leads building high-rise residential as more practical from the economic point of view. Population growths coupled with dwindling land stock make high-rise living an alternative (Jamila, H. 1994). Multi-storey residential schemes are therefore seen as an appropriate choice when it comes to addressing the mismatch of demand and supply. Unfortunately, the culture living of sharing is very lack shows in their lifestyle. Therefore this research is mainly to investigate what influence them to own these unit.

Differ from other types of property, this property need to be manage and maintained by one management because everything were in sharing basis. Unfortunately, collecting the management fund is not an easy task. This, matter which retain the management difficulty in managing and maintaining the building related to small finance. Its impact the value of the property.

2   Theoretical Framework

The management needs financial resources to provide the services to residential property. Towards this, each resident is required to pay service charge with regard to the services given. This charge includes payments for insurance, refurbishment, cleaning, maintenance, lighting for public area and other costs to comply with law, rule and ordinance (Ismail, O., 1993). For units with strata title, the amount charged by Management Corporation is based on the share contribution of each unit. Nonetheless, some owners are reluctant to pay because they consider the charges to be too high (Jamila, H., 1994).

It is typical to most management activity that finance is the most critical element in effective management of high-rise housing. Fee collection and arrears present the two greatest challenges for any management body (such as developer, local authority, management corporation

and residence organisations) undertaking the management of strata housing scheme (Liass, R., 1998; Jamila, H., 1994; Mohd Razali, A., 2001; Sapian, I., 2003; Tiun, L. T., 2003; PKNS, 2004; Eddy, C. L. L., 2004). These problems are more frequent among low and medium cost housing complexes.The focus of property management and facilities management is often associated with maintenance job and collecting rent (Singh, 1969). Each residential unit is owned by different owners. The analysis on residents' responses were calculated using Fuzzy method. Unlike the case for single-owner dwellings where responsibilities for managing and maintaining the property lie exclusively with the owner, a high-rise residential complex needs to be organised and maintained by a Management Corporation and, because of that, gives rise to the issue of facilities management (Linariza & Ashok, 2003).

Adding to the difficulty, owners from different backgrounds and ethnicity contribute to the need for proper and systematic residential complex management. This is to ensure that the management serves the interests of the majority of owners and in the same time not neglecting the interests of the minority at the same time (Liias, 1998). In this study, researcher try to figure out the main purpose to live in high-rise residential.

3 Methodology

A survey was conducted on 750 residents from 150 schemes of high-rise residential scheme in Kuala Lumpur and Selangor. The responses on the survey were analyzed using Fuzzy Conjoint method adapted from Turksen Model. The linguistic values based on the residents' responses were calculated using Fuzzy method. In this study, researcher try to figure out the main purpose to live in high-rise residential

3.1 Analysis Method Using Fuzzy Conjoint Model
A conjoint analysis was used to examine the level of the influential factors affecting the residents preference. Conjoint analysis is an overall preferences rating for an alternative can be de-composed into a combination of preferences for it component. The Fuzzy Conjoint Model is developed by integrating fuzzy measurement of evaluations into the vector preference model. The fuzzy conjoint analysis used in this study is a method originally designed by Turksen and Biswas, in which the method is used for the analysis of consumer preferences.

The Fuzzy Conjoint Model adapted from Turksen is:

$$\mu_R(y_j, A) = \sum_{i=1}^{T} \frac{W_i}{\sum_{k=1}^{T} W_k} \mu_{B_i}(x_j, A)$$

Where,

$\mu_R(y_j, A)$ - The estimated overall evaluation which is a weighted sum of the membership functions of the fuzzy sets that represent the attribute evaluation;

W_i - A crisp attribute "relevant" weights (1-7);

$\mu_{B_i}(x_j, A)$
          - The degree of membership for respondent *i* for item *A* according to linguistic label $y_i = 1, 2, . . , T$;

T - The number of linguistic label; and
A - Factors affecting the residents' preferences.

In this study, the variable of linguistic for domain element is "iinfluence". The crisp weight is a rating of attribute's relevant using Likert scale ranged from 1:"very not influnce" to 7:"strongly influence".

Table 1: Likert Scale For The Fuzzy Linguistic Value Represent Level of Influence

Scale	Level of Relevent	Fuzzy Linguistic Value
1	1 – very not influence	$\{1/1, 0.7/2, 0.2/3, 0.1/4$
2	2 – not influence	$\{0.6/1, 1/2, 0.6/3, 0.3/4$
3	3 – quite not influence	$\{0.2/1, 0.7/2, 1/3, 0.7/4,$

Scale	Level of Relevent	Fuzzy Linguistic Value
4	4 – neutral	$\{0/_1, 0.1/_2, 0.7/_3, 1/_4, ($
5	5 – quite influence	$\{0/_1, 0.1/_2, 0.2/_3, 0.7/_4, $
6	6 – Influence	$\{0/_1, 0/_2, 0.1/_3, 0.3/_4, 0$
7	7 – very influence	$\{0/_1, 0/_2, 0/_3, 0.1/_4, 0.$

Note : $0.1/_6$ means 0.1 at 6

3.2 Fuzzy Similarity Degree between Two Fuzzy Set
There are few formulas to determine the fuzzy similarity degree between two fuzzy sets. This study will make use of the formula of dot product based on Euclidean Inner

Product formulated by Biswas (1995). The fuzzy similarity degree between fuzzy set R and M is defined by:

$$S(R,M) = \frac{R \bullet M}{\max(R \bullet R, M \bullet M)}$$

Where,

$$S(R,M) = \frac{R \bullet M}{\max(R \bullet R, M \bullet M)}$$

$$R = (\mu_R(x_1), \mu_R(x_2),...), \quad M = (\mu_M(x_1), \mu_M(x_2),...)$$

R, M are vectors. $X = (x_1, x_2,...)$

4 Analysis and discussion

Table 1 shows the results of items factors in choosing to live in high-rise residential. Its indicate the need of high rise living was actually based on affordabality. It obtain the highest score of **0.4651** with linguaistic value of 'very influencing'. Followed in a row for linguistic value of 'influencing' , were location, transport accessibility, safety level and privacy with score of **0.4282, 0.4257, 0.4244 and 0.4244.** Whereas for facilities comprise, club house , swimming pool, parking area, value for money and interesting package gain only as 'quiet influencing' with score of **0.3874, 0.3836, 0.3830, 0.3823** and **0.3628.** Two lowest scores were management and like to stay in high place with the scores of **0.3157** and **0.2899.**

Table1 : Table of level of influence in selecting high rise as shelter

No	Statement	Linguistic Variable	weightage
1	House Price (affordability)	Very Influence	0.4651
2	Location (Near work place)	Influence	0.4282
3	Transport accessibility	Influence	0.4257
4	Level of safety	Influence	0.4244
5	Privacy	Influence	0.4033
6	Facilities provided	Quite influence	0.3874
7	Club house and swimming pool	Quite influence	0.3836
8	Parking lot	Quite influence	0.3830
9	Value for money	Quite influence	0.3823
11	Interesting package	Quite influence	0.3628

| 12 | Management | Quite not influence | 0.3157 |
| 13 | Adore living in high rise | Quite not influence | 0.2899 |

The analysis shows this type of ownership was based on affordability of the buyers. It is very important for the buyers to choose this type of dwelling since the house price range for landed property is very expensive compared to highrise property. This happen especially, to those who wants to stay near to work place. Besides, residents also influence by public transportation. Since, traffic in city centre were really heavy. Ownership needs to look into this matter. Nevertheless safety and privacy also one of influencing factor for these residents. Nevertheless, facilities, club house, parking lot, value for money and interesting package fall under quiet influence. Unfortunately, management and adore living in high rise only fall into, queit not influncing. This matter explain why difficulties occur in collecting service charge happen in Malaysia.

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