



ESTABLISHING SEMANTIC NETWORK OF THE MALAYSIAN AFFORDABLE HOUSING LIVABILITY DIMENSIONS

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ABSTRACT

The impetus for the study is the growing awareness of the deterioration of livability, particularly in urban environments due to the pressure of imbalance development pattern. An investigation into the views of industry and academia revealed there is a considerable gap in determining the perimeter that predicting the livability of affordable housing scheme in Malaysia. This paper offers the qualitative exploration of the Malaysian affordable housing livability dimensions. The purpose of this case study design study is to explore participant's views consisting government bodies, public and private universities, and non-governmental organizations with the intent of using this information to develop the conceptual framework of affordable housing livability. This was accomplished by collecting the focus group data to provide a full picture of the extent of coverage of affordable housing livability dimensions. Findings from this qualitative phase will be used to test the dimensions with the sample of affordable housings' residents. The study reveals that the affordable housing livability is conceptualized as a composite of seven dimensions. Further validation for the derivation of affordable housing livability construct validity is needed to provide adequate exploration. This study contributes to the existing body of knowledge in livability studies in terms of dimension construct. Conclusively, the findings can help researchers, planners, policy makers and others in the formulation of housing criteria guidelines for the introducing of livable housing as part of the effort to incorporate these features into any new housing projects, to improve the quality of life of in urban environments.

1.0 INTRODUCTION

The term "affordable housing" and "habitable house" often creates confusion and can be hard to pin down in practice. According to Milligan *et al.* (2007), affordable housing is a housing unit which provides the need for the low to moderate households to access appropriate housing in the

market so that they are able to accommodate their basic living costs. Affordable housing is generally defined as a housing that can be provided at a reasonable cost i.e., at an affordable price and not more than 30 percent of the gross household income for the low to medium income group (Whitehead, 1991).

Working households need to bear the burden of either significant costs such transportation costs

if renting or buying housing that have good access to their workplace (Wan *et al.*, 2011). Inaccessibility for housing by the middle-income group is the result of rising house prices, especially in major urban areas has worsened the situation. Their ability to become homeowners, and also the size and type of housing they can buy is subjected to affordability of housing (Wan *et al.*, 2011).

Tan (2012) stated that most of the public low-cost housing schemes that were launched by the government over the past 20 years have failed to improve the quality of life of their residents. Many housing areas developed under these schemes have turned into slums that do not provide a wholesome environment for families. Low-cost housing is priced between RM35,000 and RM42,000, therefore, many of these units are small whereby the built-up area is approximately 650 square feet. As a result, children tend to spend their time in corridors, on fire-escape landings or in the car parks, due to lack of space and privacy.

Goh and Ahmad (2012) agreed with the problem and continued that there is no proper pathway from flats to garden or playground thus causing danger to children who cross the driveway to the playground. With regards to the problems faced by the residents in low-cost public housing, Hashim *et al.* (2012) in reference to Construction Industry Development Board (CIDB) stated that the design of low-cost housing in Malaysia has been changed from the provision of two to three bedrooms with addition of dining area, drying area as well as a separate bathroom and toilet.

Furthermore, according to Tan (2012), housing developments in Malaysia has experienced significant transformation from 1985-2004 where the preferences of buyers changed from basic shelter to quality living environment such as location, environmental amenities, proximity to the workplace, symbolic characteristics and investment. As such affordable homes should not only reflect shelter but also contribute towards quality living. Hence, the livable-affordable-home is the one place that has more transportation choices, safety location, and reliable and economical necessities. These can decrease the household transportation costs and reduce their dependence on petrol. In addition

to that, it leads to improved air quality, reduce greenhouse gas emissions, and promote public health. Furthermore, livable home should promote equitable, affordable housing, relay on expanding location-and energy-efficient housing choices for people of all ages, incomes, races, and ethnicities to increase mobility and lower the combined cost of housing. In addition to that, the livable-affordable-home should locate at places that enhance economic competitiveness, through easy accessing to employment centers, educational opportunities, services, markets, and other basic needs by workers.

Although many researchers have been undertaken to identifying the indicators for livability, nevertheless there is a deficiency of the evaluation for the housing livability (Asiyanbola *et al.*, 2012; Buys *et al.*, 2013; Saitluanga, 2014; Pandey *et al.*, 2014; Sule & Mohit, 2015; Mohit & Sule, 2015). In retrospect, there is livability indexes, such measuring the livability aspects of cities, town, and community. Despite this, Australia has developed livability index measuring the physical aspects and housing design. Additionally, AARP in the United States has developed livability index for cities, and residential communities however, this index measures general livability (AARP, 2018). Hence, there is lacking for the evaluation for the affordable housing livability. A systematic review on housing livability research, it was observed that in some instances of quantitative and qualitative methods were adopted (Table 1).

2.0 METHODOLOGY

2.1 Preliminary consideration of research paradigm

This research adopts the qualitative approach. Qualitative research seeks in-depth understanding of a phenomena or concept (Dainty, 2008) and also provides a strategy to understanding the 'contexts and settings' in which the researchers address an issue. It is an 'interdisciplinary, trans-disciplinary, and sometimes counter-disciplinary' and interlinks the natural and social sciences (Denzin and Lincoln, 2005). This qualitative method study utilised within the interpretivist paradigm (Denzin and Lincoln, 2011). This

research undertook an inductive research approach to drawing conclusions from the qualitative data.

Table 1: Systematic review of previous research on livability

Author	Livability indicators	Research design and method	Rivet/Focus
Asiyanbola et al. (2012)	Neighbourhood facilities; Road quality, Garbage collection, Public transport, State of cleanliness, Street light, State of security, Crime level, Pollution, Water supply, Interpersonal relationship, School quality, Shops, Drainage system, Power supply and General condition	Survey design; Questionnaire; Inferential statistic	Comparative study of two neighbourhoods livability in Ogun State, Nigeria
Buys et al. (2013)	Individual dwelling unit, Building complex domain, Community domain	Qualitative approach	Inner core city livability
Saitluanga (2014)	Objective dimensions: Economic, Social, Household, Accessibility. Subjective dimensions: Socio-economic environment, Physical & infrastructural environment	Principal component analysis	Spatial pattern of urban environment
Pandey et al. (2014)	Social interaction, infrastructure, public services, cultural environment, shops, housing options, good connectivity, natural environment, safety, education, healthcare, recreation, cleanliness	Descriptive statistics	City livability
Sule and Mohit (2015)	Housing units characteristics, neighbourhood facilities, safety environment, economic vitality, and social dimension	Exploratory; Questionnaire; Confirmatory factor analysis (CFA)	Livability assessment of Public Low-income Housing in Nigeria
Mohit and Sule (2015)	Home environment, neighbourhood amenities, economic vitality, social environment and civic protection	Quantitative; Factor analysis and Structural equation model	City livability and housing

2.2 Research design

This case study design consists of two distinct stages: the researcher collects and analyzes qualitative data for the development of the conceptual framework (Cresswell, Plano Clark, et al., 2003). The rationale for this approach is that an intrinsic case study is done to know about a distinctive phenomenon (Stake, 1995). Stake (1995) further explains that whereas an

instrumental case study uses a specific case to comprehensively appreciate a phenomenon, a collective case study involves studying multiple cases concurrently or chronologically to generate a comprehensive appreciation of a specific phenomenon.

2.3 Focus group discussion method

According to Mishra (2016) focus group discussion (FGD) can be defined as a meeting

that communicating people having some common interest or characteristic, united by the interviewer, who will chair the discuss and its interaction as an approach to pick up data around a particular or centered issue.

Interviewer makes a lenient and sustaining environment that energizes diverse observations and perspectives, without forcing respondents to vote, plan or achieve agreement (Krueger, 2014). In this research, FGD was held to evaluate the conceptual framework (attributes, sub-attributes and indicators). To develop measuring instruments for this research, questions in the FGD were converted into themes that corresponds with the research objective (Boeije, 2010). The participatory organizations were picked based on their housing expertise and knowledge, which the researchers recognized as contributory towards the research according to the attributes identified. The purpose of the FGD was to establish the content validity of the conceptual framework.

20 consisting of government bodies, public and private universities, and non-governmental organizations to describe their views on the study/to provide a full picture of the extent of coverage of affordable housing livability. The text documents and focus group interview transcript were analysed by the help of the Atlas ti.

The qualitative findings then were used to guide the development of the items. To ensure the measure would be appropriate for assessing the Malaysian affordable housing livability, government bodies, public and private universities, and non-governmental organizations took part in the study.

The FGD were conducted to determine the affordable housing livability dimensions and investigating the changing developmental needs in housing market that satisfy the aspirations of all stakeholders through the analysis of the views of an expert. The participant experience years range from 15 to 45 years ($M= 29.83$, $SD= 10.92$).

Table 2: Participant of Focus Group Discussion

No.	Organization	Designation	Number of Participant
1	City Council	Assistant. President and assistant director	2
2	Municipal Council	Member of Sepang Municipal Planning Officer of Subang Jaya Municipal council	2 1
3	Regional Development Authority	Assistant Vice President/ Associate	2
4	Developers and Architect	Associate/Executive/ Senior Manager/ General Manager/ General Manager/ Principal/Director/ Vice President	10
5	Research universities	Lecturer Senior Lecturer	1 3

3.0 DATA ANALYSES AND INTERPRETATION

This was accomplished by primary documents analyses and asking the expert from a sample of

Table 2 shows the participants of the interview. Network Views of the ATLAS.ti was used to help represent and explore the concept of structure of this study. By using a series of

visual design theory model, the researcher can exploit the properties of the network structure. Network views allow researcher to conceptualize the structure by connecting a set of similar elements together in diagrams. The relationship between codes, quotes, and memos were expressed with the help of Network View. The two-dimensional conceptual structure of this study was generated by using the visualisation tool in Atlas.ti (Figure 1). The analysis has determined 7 dimensions of affordable housing livability: physical aspects, safety and security, psychological impact, community and neighborhood, economic development, residence wellbeing, and public amenities. Asiyanbola et al. (2012), Buys et al. (2013), Saitluanga (2014), Pandey et al. (2014), Sule and Mohit (2015), Mohit and Sule (2015), and Lowe et al. (2013), conceive a livable house as a place to be one that is safe, attractive, socially cohesive and inclusive, and environmentally sustainable; with affordable and diverse housing linked to employment, education, public open space, local shops, health and community services, and leisure and cultural opportunities; via convenient public transport and infrastructure.

constructs. Atlas.ti was used to organise, manage, and analyses the primary documents consisting of the relevant report and documents, and focus group transcripts. Result has determined 7 constructs for affordable housing livability. The network analyses of Atlas.ti revealed that, affordable housing livability is conceptualized as a composite of seven dimensions: physical aspects, safety and security, psychological impact, community and neighborhood, economic development, residence wellbeing, and public amenities.

The number of affordable housing is increasing and built within years in Malaysia, especially in the urban areas. Despite the rapid and positive development of affordable housing in Malaysia, it is important to consider the livability of the housing. Therefore, further research and study are essential to improve the livability in the affordable housing for a better housing unit as well as a better productivity and well-being of the current and future residents of the affordable housing in Malaysia.

Practically, the findings of this study can serve as a guide for assessing the livability of affordable housing projects as well as serving as a guide to developers, NGOs and government agencies in the allocation of resources for the provision of livable affordable housing. Policy makers need to set higher standards for building and neighbourhood designs that encompass livability and sustainability features. This will require more research and innovation from the building and land development industries.

Further validation for the derivation of affordable housing livability construct validity is needed to provide adequate exploration. Future study would investigate the interrelationship between the variable for livable affordable housing.



Figure 1: Semantic network of affordable housing livability

4.0 CONCLUSION

Network diagram have been established for identifying the affordable housing livability

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