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Factors Influencing Property Overhang in Residential and Serviced Apartments in Malaysia: A thematic review

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Abstract
The one-decade data on residential and serviced apartment overhang indicates that overhang occurs in Malaysia and should not be taken lightly. This paper aims to identify the factors influencing property overhang by adopting a thematic analysis. ATLAS.ti 23 was used to conduct thematic analysis. The findings revealed eleven main themes of factors in property overhang in Malaysia based on the pattern highlighted in the literature. The outcomes are expected to benefit the direction of future research and developing solutions, especially for the agencies and stakeholders such as the state and local authorities and developers to work together.

Keywords: property overhang; residential and serviced apartments; Malaysia; thematic review

1.0 Introduction

The property market, particularly overhang in residential and serviced apartments, dramatically impacts the market performance. Property overhang is defined as a residential property overhang when the unit receives its certificate of completion and compliance (CCC) but remains unsold for over nine (9) months after it is launched (NAPIC, 2023). In 2022, there were 389,107 transactions worth RM179.07 billion, an increase of 29.5% in volume and 23.6% in value compared to 2021. The residential sub-sector led the overall property market activity, with a 62.5% contribution in volume and 243,190 transactions worth RM94.28 billion. From this 2022 data, the total overhang residential and serviced apartments volume was 51,724 units valued at RM38.6 billion, which can be summarized as the top three (3) states with overhang residential and serviced apartment properties are Johor (19,390 units), Federal Territory Kuala Lumpur (9,441 units), and Selangor (6,624 units). Condominiums/Apartments and serviced apartments are the highest type of overhang properties with a price range of RM500,001 – RM1,000,000.

Consequently, this phenomenon will influence the overall economic activities and other related real estate development and not help the economy as the unproductive capital tied up in the unsold units is not creating any rolling economic effect while impacting the nearly 150 industries that are related to the real estate sector (Ng, 2020). Hence, this paper aims to identify the factors influencing property

overhang raised in the literature and their pattern from 2014 to 2023. Previous research papers that deliberate on factors influencing property overhang in Malaysia are inadequate. The existing factors of overhang occurring in residential and serviced apartments in Malaysia have been retrieved from previous research and are likely to be discussed in this paper. Nevertheless, the factors overhang can be differences between landed and strata residential properties.

2.0 Materials and Methods

The thematic analysis process was conducted in the literature review using ATLAS.ti 23. Thematic analysis is a method for identifying and analyzing patterns in qualitative data (Clarke & Braun, 2013). Thus, identifying the pattern and form category is to understand the factors of property overhang publication patterns in Malaysia. Then, the findings from this research are recommendations for future research in property overhang.

The selection of literature was performed according to the selection criteria, which are (1) publications from 2014 – 2023; (2) having at least the keyword(s) property overhang or unsold unit; and (3) focusing on factors of property overhang in Malaysia. This research is limited to the context of Malaysia for the future direction of property overhang in the country. The initial search from reputable databases resulted in Table. 1. However, 34 articles were removed due to their uncertain results, not discussing property overhang in Malaysia and overlapping. Therefore, the final paper to be reviewed involves 22 articles (Fig. 1). While this research used articles from Scopus, Web of Science, and Emerald Insight databases, relevant publications from other sources were missed by chance.

Then, the 22 articles were uploaded into the final documents in the ATLAS.ti 23, and each paper was grouped into year of publication. The articles could be analyzed, and the discussion pattern could be seen throughout the year. Consequently, ATLAS.ti 23 helped with the thematic review process by hyperlinking the initial coding into themes.

Table 1. Search strings from Scopus, WoS and Emerald Insight

Scopus	property overhang OR "unsold hous*" OR "unsold high-rise" OR "unsold serviced apartment" OR "unsold property" AND "Malaysia"	9 results
Web of Science (WoS)	property overhang OR "unsold hous*" OR "unsold high-rise" OR "unsold serviced apartment" OR "unsold property" AND "Malaysia"	9 results
Emerald Insight	(content-type:article) AND (property overhang OR unsold hous* OR unsold high-rise OR unsold serviced apartment OR unsold property AND (Malaysia))	38 results

(Source: Author, 2023)
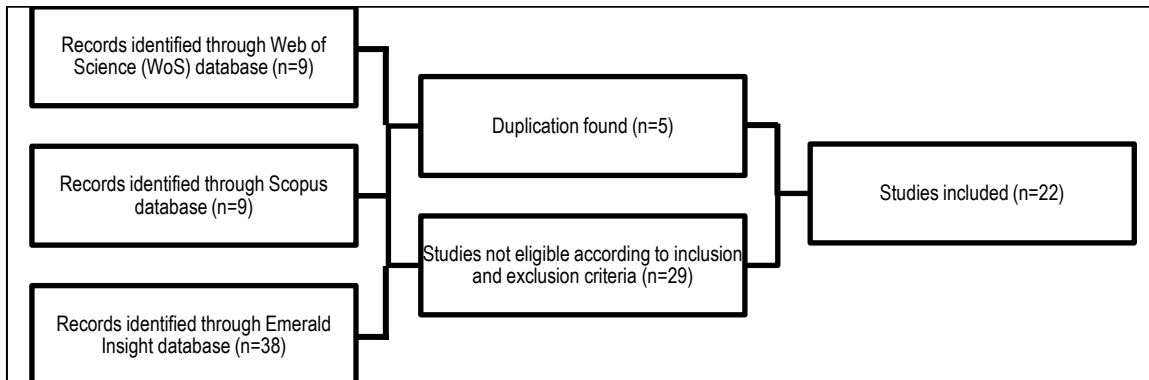
Fig. 1. Inclusion and exclusion criteria in the thematic review
(Adopted from M. Zairul, 2021)

3.0 Results and Discussion

3.1 Quantitative Findings

The data were extracted from the word cloud of the 22 articles discussed in this paper. Thus, the coding was highlighted and cross-tabulated by year of publication from 2014 to 2023 to determine the pattern of factors of property overhang in Malaysia. By the end of this section, this paper will reveal potential themes that have been discussed by respective authors on factors of property overhang in Malaysia. The main conclusion of the thematic review is reported in this section. As seen from Fig. 3, the word cloud from the 22 articles captured the term housing 3,161 times, while the term overhang has 305 repeats and the term unsold has 93 repeats.

Fig. 3. Word cloud generated from 22 articles
(Source: Author, 2023)

The initial coding resulted in 105 codes captured from 22 articles. There are multi-faceted factors of property overhang in the initial search. From Table 2, it can be seen that the pattern rarely increased by year. Meanwhile, in 2015 and 2023, no articles mentioned property overhang in Malaysia. The next phase is grouping the initial coding into categories, grouping a common code under a similar group. Some factors discussed in the literature overlap with similar groups.

Table. 2. Initial coding on factors of property overhang

	2014	2016	2017	2018	2019	2020	2021	2022
ability to place a down payment					1			
adverse credit history					1		1	
economic					1			
effective housing finance system					1			
inability to secure end financing					1		1	
high house price				1		1	1	
house buyers delayed their purchase decision		1						
house price did not match with buyers' monthly income							1	
increase and substantial growth of the house price							1	
integration of economic activities					1			
lower margin of financing offered					1		1	
mortgage loan application					1			
no incentives							1	
escalating house prices in major cities					1			
house price increase beyond the median price					1			
prudent lending policy by banks (stricter for application of mortgage loans)					1			
rejection from financial institutions to finance house purchases by low-income applicants								1
stringent criteria adopted by banks							1	
the ineligibility of the buyers' income					1		1	
unable to obtain financing						1		
absence of accurate data for the developers							1	
developers and approving authorities lack of knowledge about the property market							1	
excessive supply							1	
insufficient information for developers							1	
lack of adequate information regarding design criteria			1					
wrong product developed by the developer							1	
affordability						1	1	
housing price beyond the affordability level						1	1	
income inequality						1		
level of unaffordability					1			
long-run housing unaffordability						1		
range of prices was claimed to be affordable						1		
shortage of affordable house						1		
design consideration					1			
structure					1			
buyers' preference in conjunction with house price						1		
buyers consider the availability of a road network						1		
buyers consider the availability of public transport						1		
housing quality			1					
preferred locations, neighborhood							1	
substandard housing specification								1
type of houses						1		
unattractiveness to aspire buyers							1	

approval process at the local planning authorities and state authorities focuses on technical requirements					1			
awareness of a variety of internal and external elements (interrelationship)							1	
delay in gazetting of local plans					1			
discontinuation of the Developer Interest Bearing Scheme (DIBS)							1	
due to the Bumiputra quota					1		1	
adequate political support					1			
indiscriminate approvals by various local authorities					1		1	
inefficiency in the planning and land approval system					1		1	
institutional framework of public housing					1			
policymakers in the responsiveness of the housing development practice	1							
lack of coordination on planning among local authorities					1	1		
lengthy bureaucratic procedures								1
poor integrated planning and implementation of affordable housing provision					1			
requirements in getting approval from government authorities								1
role of the planning system							1	
availability of competent personnel					1			
effective property management and good maintenance practice					1			
inadequate maintenance								1
poor management of building facilities	1							1
technology, cost, time and quality					1		1	
connection and distance					1		1	
connectivity, distance and commuting time, low transport connectivity					1			
distance from workplaces					1		1	
far from amenities							1	
located near the main motorways					1			
lack of amenities, facilities and public transport	1					1	1	
located which is not ideal for the targeted buyers	1				1	1	1	1
unsuitable accessibility					1		1	
community involvement					1			
demographic, neighbourhood			1		1			
did not successfully meet the quality living standard for inhabitants	1							
poor living environment								1
safety					1			
social stigma					1		1	
health and environmental					1		1	
comprehensive feasibility study	1							
Lack of financial feasibility study					1		1	
housing developments are implemented without user analysis			1					
lack of market study					1		1	
mismatch demand supply					1	1	1	
mismatch pricing strategy					1			
mismatch product, location and price					1		1	
oversupply on the areas with similar property						1	1	1
mismatch housing characteristics and potential buyer needs			1	1				
suit buyer needs and preferences	1							
contractors' irrational expectations			1					
developers build the wrong product for a larger profit margin							1	
developers' indiscriminate construction					1		1	
housing developers should be aware of the buyers' preferences								1
massive of housing construction	1						1	
process of private developers' speculative demand and supply							1	
weak quality control during construction	1							
buyers use choice factors to define their housing demand			1					
demand in terms of location							1	
demand in terms of the price range							1	
demand in terms of the property type							1	
failing response from buyers						1	1	
demand in terms of reduced commuting time					1			1
demand in terms of transportation cost					1			1
insufficient affordable houses are being built					1			
beyond the price factor					1			
lack of investment options					1			
	9	1	7	2	48	19	46	12

(Source: Author, 2023)

Thus, the coding was categorized into 11 main categories, as shown in Table 3. Thirteen percent (10/75) of the articles highlighted financial/ economic factors and housing feasibility study factors in their papers. From the 22 articles, buyer preference and demand factors were the second highest highlighted, followed by factors on affordability and neighborhood. Other factors should have been discussed more among the researchers.

Table 3. The tabulation of discussion by authors on factors of property overhang in Malaysia

FACTORS	Ab Rahim et al (2019)	Adzhar et al (2021)	Cheng & Ling (2022)	Chuan & Abdul (2016)	Hew et al (2019)	Kham et al (2018)	Lee (2014)	Mohd et al (2020)	Mohd. al (2022)	Nor (2021)	Nur et al (2020)	Olanrewaju & Arazi (2019)	Olanrewaju & Tan (2017)	Olanrewaju & Woon (2017)	Olanrewaju et al (2022)	Puah et al (2017)	Sivadasan et al (2020)	Soon & Tan (2019)	Wong et al (2018)	Yee et al (2021)	Yip et al (2020)	Zafirah et al (2020)	TOTAL
Financial/ Economic	1	1		1				1	1	1	1							1	1		1		10
Information/ Data		1											1							1			3
Affordability	1	1						1			1							1		1	1		7
Buyer preferences	1	1	1			1	1	1						1				1			1		9
Government policies and regulations	1	1					1					1									1		5
Maintenance management	1	1	1				1																4
Connection and distance	1	1		1			1					1						1					6
Neighborhood	1	1	1	1			1						1					1					7
Housing feasibility study	1	1	1		1	1		1					1	1			1				1		10
Developer	1	1	1				1									1							5
Demand		1					1	1			1		1	1	1						1	1	9

(Source: Author, 2023)

3.2 Qualitative Findings

In this section, findings obtained through a search from the database with highlighted keywords helped to narrow down the final themes as listed in Table 3.

3.2.1 Financial/ Economic

According to recent research, property overhang is influenced by financial/ economic factors. Integration of economic activities is essential for an effective housing finance system (Ab Rahim et al., 2019). The increase and substantial growth in house prices (Adzhar et al., 2021), especially price (escalating house prices in major cities) (Ab Rahim et al., 2019) make possible house price increase beyond the median price (Olanrewaju & Arazi, 2019) and indirectly can cause house price not match buyers' monthly income (Nor, 2021). Due to sudden high house prices (Yip et al., 2020; Soon & Tan, 2019; Adzhar et al., 2021; Wong et al., 2018), house buyers delayed their purchase decision (Chuan & Abdul, 2016) moreover no incentives (Nor, 2021) provided for buyers.

The ability of buyers to place a down payment (Soon & Tan, 2019) appears as a factor under financial, while an adverse credit history (Adzhar et al., 2021; Ab Rahim et al., 2019) poses a significant barrier. The inability of buyers to secure end financing, together with a lower margin of financing offered (Adzhar et al., 2021; Ab Rahim et al., 2019), further contributes to the property overhang. As highlighted by Soon & Tan (2019), prudent lending policy by banks is stricter for the application of mortgage loans, and the stringent criteria adopted by banks (Adzhar et al., 2021) are unable to obtain financing (Mohd et al., 2022) by buyers. The ineligibility of the buyers' income (Adzhar et al., 2021; Ab Rahim et al., 2019) is one of the reasons for rejection from financial institutions to finance house purchases by low-income applicants (Mohd et al., 2022). Many initiatives under financial/economic factors from the government have been introduced to increase home ownership.
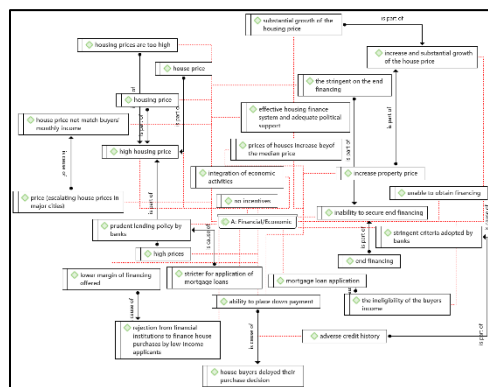
Fig. 4. Financial / Economic
(Source: Author, 2023)

3.2.2 Information/ Data

The absence of accurate data for the developers (Yee et al., 2021; Adzhar et al., 2021) and insufficient information for developers are part of the cause of excessive supply of a wrong product developed by the developer or product mismatch (Adzhar et al, 2021), together with a lack of adequate information regarding design criteria (Olanrewaju & Tan, 2017) directly not attract buyers to buy a house because do not meet their preferences. In other words, developers and approving authorities must learn about the property market (Adzhar et al., 2021). Therefore, adequate information for developers is needed to ensure a timely response to demand.
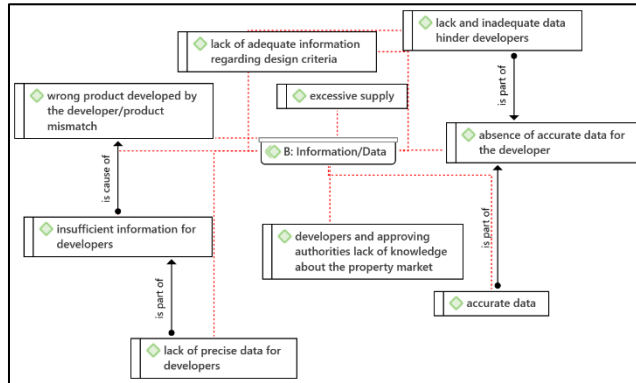
Fig. 5. Information/ Data
(Source: Author, 2023)

3.2.3 Affordability

Affordability (Adzhar et al., 2021; Ab Rahim et al., 2019) appears as one of the factors of property overhang. Housing prices beyond the affordability level (Adzhar et al., 2021; Yee et al., 2021; Mohd et al., 2020) seem to be a result of income inequality (Nur et al., 2020; Mohd et al., 2020) and the level of unaffordability (Soon & Tan, 2019) of house buyers. It happens due to the range of prices claimed to be affordable (Nur et al., 2020), which can create long-run housing unaffordability and a shortage of affordable houses (Yip et al., 2020). Thus, development in urban areas must be monitored closely by local authorities.
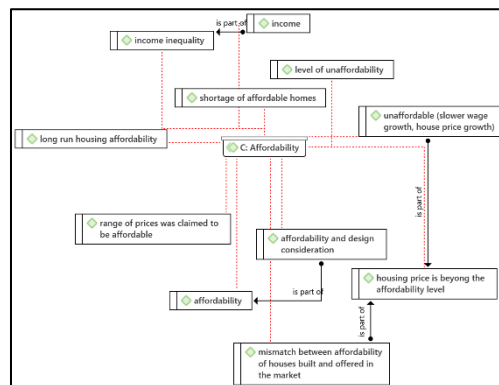

Fig. 6. Affordability
(Source: Author, 2023)

3.2.4 Buyer Preferences

Buyers' preferences play a vital factor in property overhang. Buyers consider the availability of a road network and public transport (Olanrewaju & Arazi, 2019), housing quality (Olanrewaju & Woon, 2017), preferred locations, neighborhood (Nor, 2021), substandard housing specifications (Cheng & Ling, 2022), type of houses (Nur et al., 2020), design consideration (Ab Rahim et al., 2019) and structure (Ab Rahim et al, 2019; Soon & Tan, 2019) before buying a house either for own stay or investment. Besides that, buyers' preferences are in conjunction with house prices (Yip et al., 2020). Thus, if the buyer does not meet their preferences, it can become unattractive to aspiring buyers (Adzhar et al., 2021), which directly can cause property overhang. Hence, the information needs to be sufficient to meet buyers' preferences.
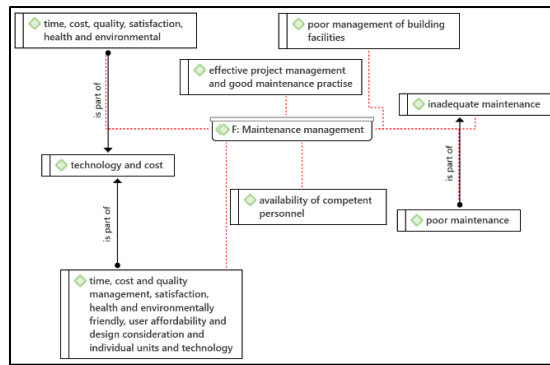
Fig.7. Buyer preferences
(Source: Author, 2023)

3.2.5 Government Policies and Regulations

Adequate political support (Ab Rahim et al., 2019) and awareness of a variety of internal and external elements (interrelationships) is reflected in government policies and regulations on the role of the planning system (Adzhar et al., 2021). Regarding lack of coordination on planning among local authorities (Ab Rahim et al., 2019; Adzhar et al., 2021; Yip et al., 2020), indiscriminate approvals by various local authorities, and inefficiency in the planning and land approval system (Ab Rahim et al., 2019; Adzhar et al., 2021) and also delay in the gazette of local plans (Ab Rahim et al, 2019) is not good practice in planning system redirect on property overhang. Hence, policymakers in the responsiveness of the housing development practice (Lee, 2014) should not focus on technical requirements in the approval process at the local planning authorities and state authorities (Ab Rahim et al., 2019) in conditions getting approval from the government authorities (Mohd et al., 2022).

Government policies and regulations need to look once more at the matter of discontinuation of the Developer Interest Bearing Scheme (DIBS) (Adzhar et al., 2021), lengthy bureaucratic procedures (Mohd et al., 2022), the institutional framework of public housing (Ab Rahim et al., 2019) and due to Bumiputra quota (Ab Rahim et al., 2019; Adzhar et al., 2021; Olanrewaju & Arazi, 2019) to drive down poor integrated planning and implementation of affordable housing provision (Ab Rahim et al, 2019). This is a primary factor in stabilizing the housing property market.

Fig. 8. Government policies and regulation
(Source: Author, 2023)

3.2.6 Maintenance Management

The availability of competent personnel is concerned with increasing effective property management and good maintenance practices (Ab Rahim et al., 2019) in reducing property overhang. Consequently, technology, cost, time, and quality (Ab Rahim et al., 2019; Adzhar et al., 2021) are necessary to take a role in practicing maintenance management in the schemes to prevent inadequate maintenance (Cheng & Ling, 2022; Lee, 2014) and poor management of building facilities (Cheng & Ling, 2022). Hence, maintenance management is an ongoing management starting from the completion of the building.

Fig. 9. Maintenance management
(Source: Author, 2023)

3.2.7 Connection and Distance

Property overhang is tainted by connection and distance (Ab Rahim et al., 2019; Adzhar et al., 2021). For instance, connectivity, distance and commuting time, low transport connectivity (Ab Rahim et al., 2019), far from amenities (Adzhar et al., 2021), located near main motorways (Hew et al., 2019), lack of amenities, facilities and public transport (Nur et al., 2020; Adzhar et al., 2021; Lee, 2014) and unsuitable accessibility (Ab Rahim et al., 2019; Adzhar et al, 2021) is several reasons of overhang happened in the schemes. Distance from workplaces (Ab Rahim et al., 2019; Adzhar et al., 2021) is part of the location schemes that are not ideal for the targeted buyers (Nur et al., 2020; Adzhar et al., 2021; Mohd et al., 2022; Soon & Tan, 2019; Lee, 2014; Ab Rahim et al., 2019). Hence, the overhang can be reduced if developers consider it seriously.
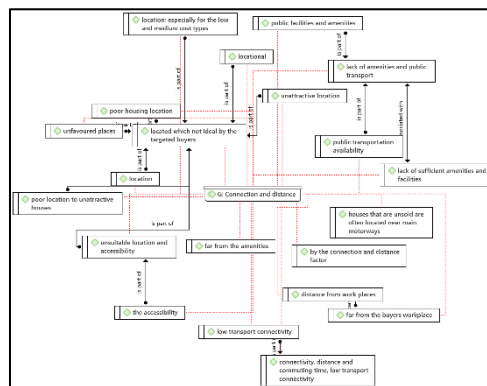
Fig. 10. Connection and distance
(Source: Author, 2023)

3.2.8 Neighborhood

Demographics and neighborhoods (Soon & Tan, 2019; Olanrewaju & Tan, 2017; Ab Rahim et al., 2019) can also be factors of property overhang. The choice of the neighborhood is critical to gaining community involvement (Ab Rahim et al., 2019) in terms of safety (Hew et al., 2019), health, and environment (Ab Rahim et al., 2019; Adzhar et al., 2021). If not, it can bring social stigma (Ab Rahim et al., 2019; Adzhar et al., 2021) and a poor living environment (Cheng & Ling, 2022), which means it did not successfully meet the quality living standard for inhabitants (Lee, 2014). Thus, varied aspects are considered when a buyer buys a house, including the neighborhood.
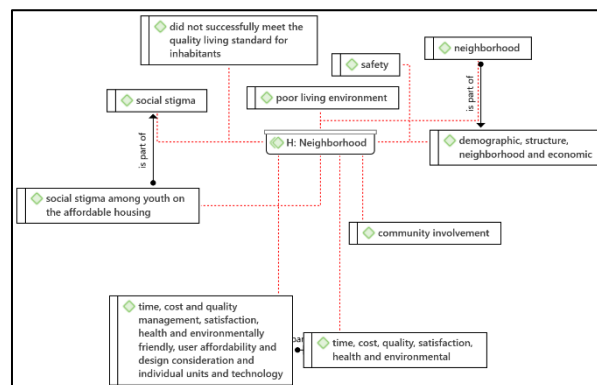
Fig. 11. Neighborhood
(Source: Author, 2023)

3.2.9 Housing Feasibility Study

A comprehensive feasibility study that suits buyer needs and preferences (Lee, 2014) is needed to prevent a mismatch between demand and supply (Mohd et al., 2020; Adzhar et al., 2021; Ab Rahim et al., 2019; Cheng & Ling, 2022). Hence, a lack of market and financial feasibility studies can foster a mismatch in product, location, and price (Ab Rahim et al., 2019; Adzhar et al., 2021) and pricing strategy (Sivadasan et al., 2020). As well, the housing developments are implemented without user analysis (Olanrewaju & Woon, 2017) turn in oversupply in the areas with similar properties (Yip et al., 2020; Cheng & Ling, 2022; Adzhar et al., 2021) as a result of mismatch housing characteristics and potential buyer needs (Olanrewaju & Tan, 2017; Kham et al., 2018) which cause property overhang.
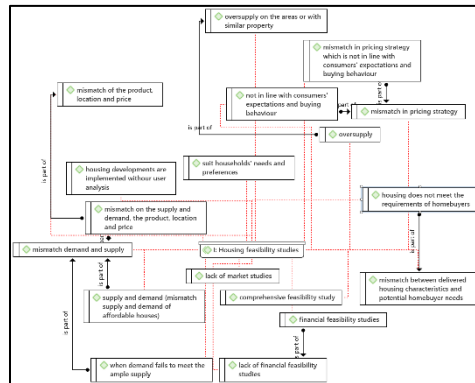
Fig. 12. Housing feasibility study
(Source: Author, 2023)

3.2.10 Developer

Several papers discussed developers' factors on property overhang. Puah et al. (2017) mentioned contractors' irrational expectations. This implies that optimistic contractors will likely respond by initiating more construction supplies to satisfy the booming market. The speculative demand and supply may lead developers to indiscriminate construction (Adzhar et al., 2021; Ab Rahim et al., 2019). Therefore, massive housing construction (Adzhar et al., 2021; Lee, 2014) may influence weak quality control during construction (Lee, 2014). Besides that, Cheng & Ling (2022) highlighted that housing developers should be aware of the buyers' preferences because developers building the wrong product for a more significant profit margin (Adzhar et al., 2021) can contribute to property overhang.
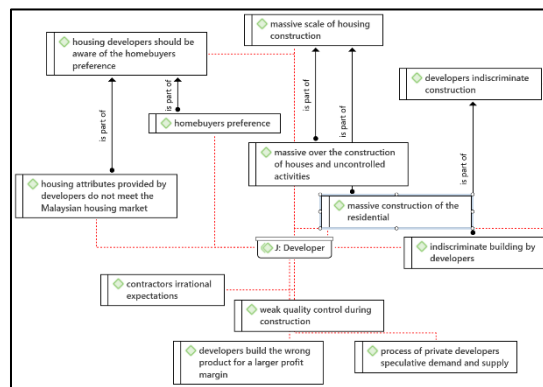
Fig. 13. Developer
(Source: Author, 2023)

3.2.11 Demand

Failing response from buyers (Sivadasan et al., 2020; Yip et al., 2020; Adzhar et al., 2021) is a sign of overhang. Fulfilling market demand is crucial in avoiding property overhang because buyers use choice factors to define their housing demand (Olanrewaju & Woon, 2017). The majority of buyers will be in demand in terms of location, price range, property type (Adzhar et al., 2021) and also demand in terms of reduced commuting time and transportation cost (Olanrewaju & Arazi, 2019; Olanrewaju et al., 2022). It is shown beyond the price factor (Zafirah et al., 2020; Lee, 2014). Other than that, there is demand for affordable houses, but the problem is that more affordable houses are being built (Yip et al., 2020), and there is a need for more investment options (Mohd et al., 2020). Hence, the overhang can be reduced if developers match the market demand.
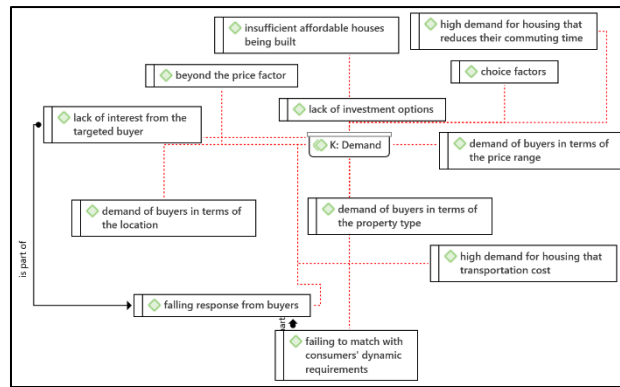
Fig. 14. Demand
(Source: Author, 2023)

4.0 Conclusion

This research highlights the pattern of factors of property overhang in Malaysia Fig. 15. The limitation in this paper discusses general factors occurring in property overhang even though there are different factors influencing overhang in landed and strata residential properties. In the context of Malaysia, more research needs to be conducted regarding factors of property overhang. Also, it needs to look into how to resolve the rising number of overhang units. The developer and local authority play a vital role in helping reduce the number of overhang units. For example, the developer needs to conduct an adequate feasibility study to develop a new scheme, and the local authority needs to re-evaluate the development before approving it. The outcomes are expected to benefit the direction of future research and the development of solutions, especially for the agencies and stakeholders, such as the state and local authorities and developers, to work together.
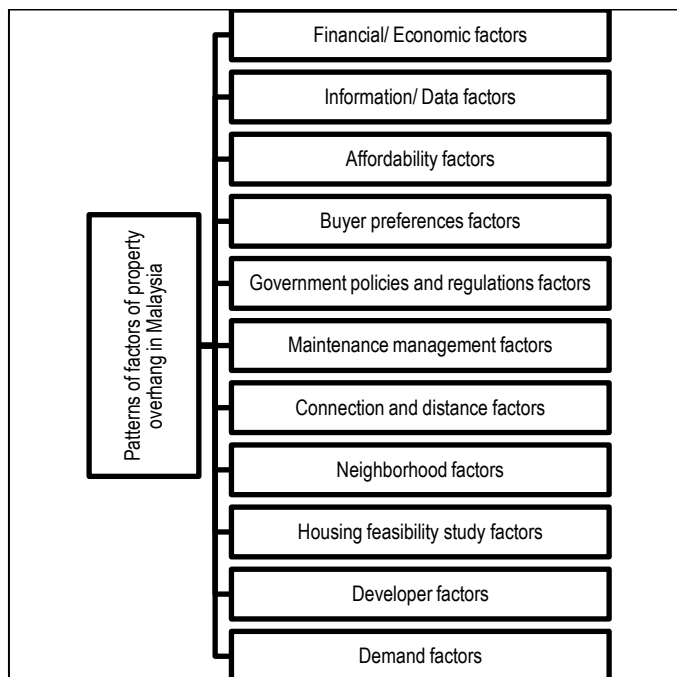
Fig. 15. Patterns of factors property overhang in Malaysia
(Source: Author, 2023)

Acknowledgment

Paper Contribution to Related Study

Real Estate

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