



BEST DISSERTATION 最佳碩士論文



Shopping with Furry Companions: Implementation of Pet-friendly Practices on Customer Satisfaction in Shopping Centres in Hong Kong



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Introduction

A common saying “a dog is a man’s best friend,” implies dogs are an integral part of human life. Nowadays, many pet owners treat their pet dogs and cats as another integral members of the family (Bouma et al., 2022; Wood et al., 2015). Pet animals have long been considered an essential alternative for improving human physical, psychological and social health. (McConnell et al., 2011; Smith, 2012).

In recent years, more and more individuals and families are adopting pets, especially dogs or cats in Hong Kong and across the world. With the driving forces such as an ongoing decline in fertility rates, the emergence of COVID-19 along with the shift of home working, the demand for furry families in Hong Kong is surging. To provide proper care to their human companions, people are willing to spend a substantial amount of money and allocate considerable time for them, which leads to the astonishing growth in the pet market.

To grasp this profitable opportunity, different industries devote more resources to the development of related products and services that are hospitable to pet dogs and cats. This remarkable growth in the pet-related market is also reflected in the wave of anchoring pet-friendly marketing strategies in the shopping centre in Hong Kong as people love to hang out with their animal companions wherever possible. To satisfy the changes in customer needs, the inclusive environment for customers with and without pets is increasingly embraced by shopping centre operators in Hong Kong.

Despite a variety of literature covering the success factors for managing shopping centres and implementing pet-friendly measures in the hospitality industry, there is a lack of research addressing pet-related strategies specifically in the context of shopping centres. To bridge this gap in existing literature, this research employs an analysis that combines Importance-Performance Analysis (IPA) and Kano’s model to evaluate the influence of implementing pet-related practices on customer satisfaction and how these practices satisfy the needs of customers (both pet owners and non-pet owners) visiting the malls. The data were collected through face-to-face questionnaires administered at The Arcade, K11 MUSEA, and New Town Plaza, with respondents divided into two groups (pet owners and non-pet owners). The findings of this study aim to provide insights for shopping centre management in adapting to the growing trend of pet ownership and changes in customer needs.

Literature Review

The Development of Pet-friendly Trends in Shopping Centres Worldwide and in Hong Kong

Shopping malls worldwide have embraced pet-friendly initiatives, such as pet comfort stations and canine codes of conduct. Yorktown Centre (2020) in the US, Festival Place (2022) in England, Springfield Central (2018) in Australia, and Ayala Malls (2021) in the Philippines have implemented various pet-friendly policies, ensuring a safe and enjoyable shopping environment for both pets and their owners.

In response to the booming pet market in Hong Kong, shopping centres are adapting to become more pet-friendly. They are adjusting their tenant mix and company positioning to cater to pet owners and attract more shoppers. Some shopping centres have upgraded their facilities to include pet parks and amenities, creating a total experience for pet owners (ISCM, 2022).

Pets as Companions

Pets refers to private companion animals not intended for research or resale. This typically includes dogs, cats, ferrets, rabbits, rodents, hedgehogs, reptiles, and birds (USDA, 2022). Companion animals are those that reside in a shared environment with humans, forming a mutually beneficial bond. (Companion Animals New Zealand, 2020). Palmer (2013) stated that companion animals are pets kept for companionship, involving positive engagement like play and comfort. To enhance the feasibility of this study, the focus of this research is solely on companion dogs and cats.

Shopping Centre

Shopping centres in Hong Kong play a prominent role in promoting economic growth and community development. Hong Kong Planning Department (2009) states that a shopping centre is a collection of shops, dining, and entertainment facilities housed in one location, regardless of size.

Pet-friendly Practices

Pet-friendly practices, in this research, refer to the actual application of pet-friendly concepts. These practices involve measures designed and implemented to create an inclusive environment that allows both general users and pet owners to utilize the facilities together with their pets. Drawing from the resource-based view theory (Wernerfelt, 1984), this study investigates pet-friendly practices in shopping centres by examining tangible and intangible resources and capabilities.

Customer Satisfaction

Customer satisfaction is crucial for the success of organizations, especially in the retail industry. It is the fulfillment of consumer needs and desires (Oliver, 1997), leading to loyalty and profitability (Hallowell, 1996; Van der Wiele et al., 2002). Service quality and its correlation with customer satisfaction are vital for property professionals (HKIH and PTec, 2017).

In this study, the examination of customer satisfaction and perceptions of pet-friendly attributes is based on the UK Customer Satisfaction Index and SERVQUAL, as referenced in Parasuraman et al. (1985) and The Institute of Customer Service (2021). The research consolidates three key dimensions of service quality: (1) Experience/Tangibles, (2) Customer Ethos/Empathy/Responsiveness, and (3) Emotional Connection/Assurance/Reliability, which are the focus of the service quality dimension.

Customer Satisfaction Theories

Importance-Performance Analysis (IPA)

Importance-Performance Analysis (IPA) has been considered a valuable graphical method for analysing customer satisfaction and management strategies. The grid was originally introduced by Martilla and James (1977) and has gained recognition for its usefulness. By dividing the chart into four quadrants (Table 1), it identifies the factors that are of utmost significance to their customers and those that are underperforming.

Table 1: The Management Strategies under Importance-performance Grid

Quadrant	Importance	Performance	Strategies
I	High	High	Keep up the good work
II	Low	High	Possible overkill
III	Low	Low	Low priority
IV	High	Low	Concentrate here

Particular attention should be given to the high importance features (in Quadrant I and Quadrant IV) as those are the key indicators of customer satisfaction.

The Kano Model

The framework of the Kano model that influences satisfaction in a variety of ways was first built by Noriaki Kano (Kano et. al., 1984). The Kano model is a valuable tool for determining the priority in the development of attributes by revealing the relationship between the features and influence on customer satisfaction (Füller and Matzler, 2008; Gitlow, 1998; Kametani et.al., 2010). Under the Kano model (Kano et.al., 1984), product and service attributes can be classified into five categories which determine overall satisfaction differently (Table 2).

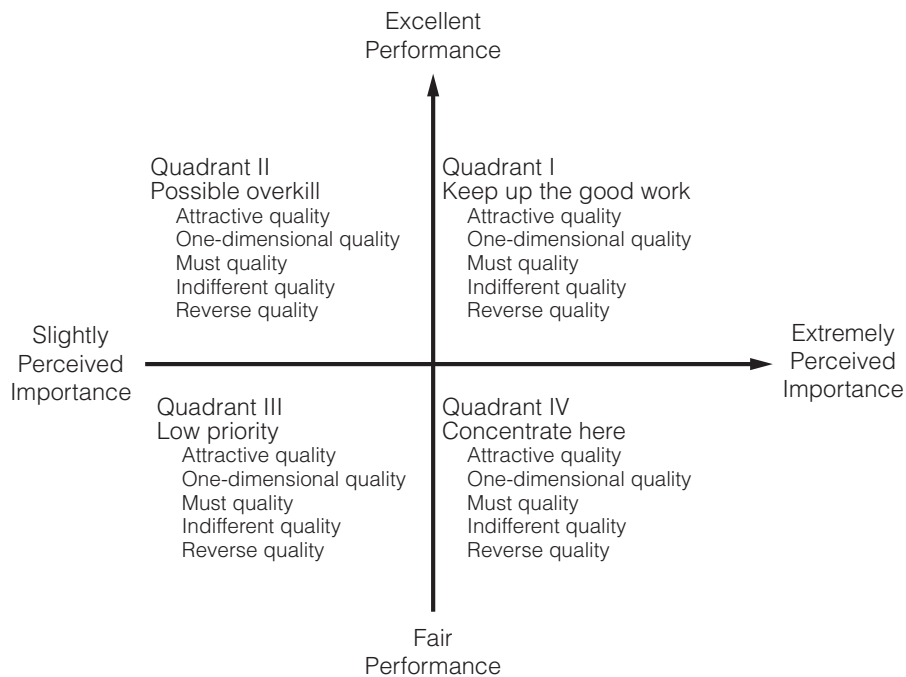
Table 2: Description of Five Quality Elements in Kano Model (Kano et.al., 1984)

Attributes	Description
[M] Must-be/basic	Features are expected to be present and customers are unhappy when these features are absent. It is important for business to invest in these features to meet customer expectations and avoid disappointing customers.
[O] One dimensional/performance	Features are directly proportional to customer satisfaction. Customers prefer to have more of these features. Investing more in these features is likely to result in higher customer satisfaction.
[A] Attractive/excitement	Features that customers do not expect. However, customers do appreciate these features and they can act as delighters. It is important to avoid over-investing in attractive features at first.
[I] Indifferent/neutral	Features that customers are indifferent to their presence or absence and do not affect customer satisfaction, investing in them is considered "money sinks".
[R] Reverse	Features' presence leads to customer dissatisfaction and vice versa.

Integrated Approach of the Kano Model and Importance Performance Analysis (IPA)

This research suggests an integrated methodology that combines Kano's model and IPA to identify the strengths, weaknesses, and satisfaction factors of the implementation on pet-friendly attributes in the three shopping centres. Chen and Su (2006) and Wu et.al., (2010) proposed a hybrid Kano-questionnaire to replace self-stated importance and integrate it into IPA. Respondents determine the perceived importance, renaming the importance-axis as perceived importance-axis in Figure 1.

Figure 1: The Perceived Importance-Performance Analysis (Chen and Su, 2006; Wu et.al., 2010)

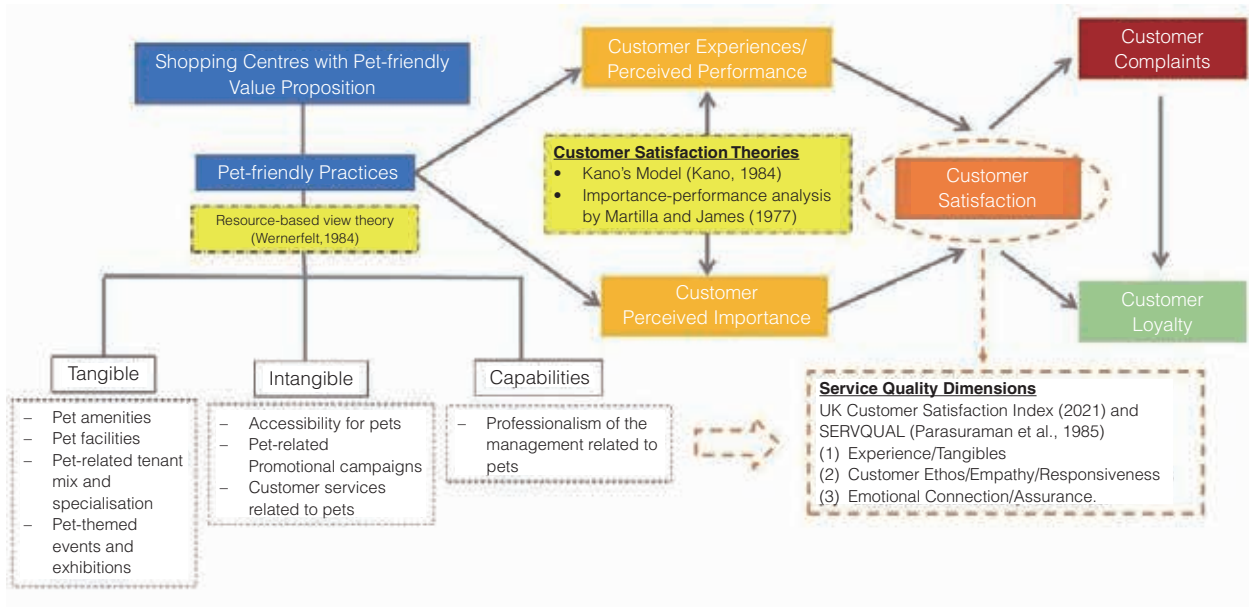


This research combines IPA and Kano theory to examine customers' perception of pet-friendly features in three Hong Kong shopping centres. By identifying influential attributes, mall operators can allocate resources strategically to drive customer satisfaction and maintain a competitive advantage.

Analytical Framework

The research presents a conceptual framework (Figure 2) that illustrates the interconnections between various concepts. It identifies pet-friendly practices in shopping centres based on tangible and intangible attributes and capabilities. The study examines how the implementation of these practices impacts customer perceived importance, performance, and, consequently, customer satisfaction. The collected qualitative and quantitative data provide insights into the influence of pet-friendly practices on customer satisfaction and loyalty, benefiting businesses economically.

Figure 2. Conceptual Framework



Methodology

Selection of Cases

The primary screening process is based on whether or not the shopping centres permit pets, as the research aims to investigate the pet-friendly practices in shopping. To lower the bias due to regional factors, one centre is chosen from each region: Hong Kong Island, Kowloon, and New Territories. Secondly, the selected centres have distinct management companies, allowing for policy and practice comparisons. Moreover, the study concentrates on large-scale shopping malls among the eight highlighted pet-friendly shopping centres, and therefore Stanley Plaza, D2 Place, and The Mills, which are comparatively smaller in size, are not included in this research due to time constraints. At last, the three designated pet-friendly shopping centres are the Arcade by Hong Kong Cyberport Management, K11 MUSEA by New World Development and New Town Plaza by Sun Hung Kai Properties

Qualitative Method

For the qualitative method, this research is going to conduct direct on-site observations at three different shopping centres in Hong Kong in an effort to collect primary data for analysis. To gain insight into how shopping centres implement their pet-friendly practices, several visits were made to The Arcade, New Town Plaza, and K11 MUSEA on both weekdays and weekends to observe the physical environment and the pet-friendly measures inside the mall.

Quantitative Method

For the quantitative approach, survey with a reference to the customer satisfaction theories (i.e. the Kano's model and the importance-performance analysis) is conducted. The research looks for the visitors of the designated shopping centres aged 18 years old or above, both have and do not have pets. The respondents are asked to answer a list of questions so as to explore their overall view by analysing the statistical. The questionnaires are aimed at finding out how the customers with and without pets think about the pet-friendly practices of the shopping centres and how do those practices affect their satisfaction, shopping experiences as well as the revisit intention of the shopping centres.

Analysis

Qualitative Findings

The pet-friendly practices of The Arcade, K11 MUSEA, and New Town Plaza offer unique strengths and areas for improvement. Firstly, The Arcade excels in separating pet areas from commercial spaces; however, it could enhance pet amenities and increase staff for monitoring and cleanliness. Similarly, K11 MUSEA impresses with a variety of pet events and a well-maintained pet garden; yet, it faces challenges with weekend overcrowding and outdated pet regulations that cause confusion. Lastly, New Town Plaza provides comprehensive pet amenities and a secure pet park; however, the non-grass floor in the Pet Garden can accumulate waste and become unhygienic and slippery if not cleaned promptly.

Quantitative Findings

Through the analysis of data using the statistical software SPSS, Table 3 summarizes the rankings, IPA quadrants, and relevant Kano categories of each pet-friendly attribute in three shopping centres.

Table 3: Results from Kano Model and IPA

	Attributes	The Arcade						K11 MUSEA						New Town Plaza					
		Pet owners			Non pet owners			Pet owners			Non pet owners			Pet owners			Non pet owners		
		Rank	IPA	Kano	Rank	IPA	Kano	Rank	IPA	Kano	Rank	IPA	Kano	Rank	IPA	Kano	Rank	IPA	Kano
A1	Pet amenities	6	Q3	A	—	—	—	6	Q3	A	—	—	—	8	Q2	A	—	—	—
A2	Pet-friendly facilities	2	Q1	A	—	—	—	2	Q1	O	—	—	—	2	Q1	A	—	—	—
A3	Accessibility for pets	7	Q2	I	4	Q3	I	4	Q1	A	4	Q2	A	4	Q1	I	5	Q2	I
A4	Pet-related tenant mix and specialization	4	Q4	A	5	Q2	I	3	Q1	A	5	Q2	I	3	Q1	A	4	Q2	A
A5	Pet-themed events and exhibitions	8	Q2	A	3	Q4	I	7	Q3	I	3	Q4	I	6	Q3	I	2	Q4	I
A6	Pet-related promotional campaign	5	Q3	M	—	—	—	8	Q3	I	—	—	—	7	Q3	I	—	—	—
A7	Customer service (especially related to pets)	1	Q1	O	1	Q1	I	1	Q1	O	2	Q4	M	1	Q1	O	3	Q3	O
A8	Professionalism of management (especially related to pets)	3	Q4	A	2	Q4	A	5	Q4	O	1	Q4	M	5	Q4	O	1	Q4	O

In line with the hypothesis, the study revealed a positive correlation between customer-perceived importance and the performance of pet-friendly practices, impacting customer satisfaction in the three shopping centres. The implementation of different types of pet-friendly practices in shopping centres can have varying effects on customer satisfaction, as it depends on the customers' perceived importance of these attributes and the actual performance by the shopping centres. Notably, customer service related to pets (ranking in the top 1-3) can enhance satisfaction for both pet owners and non-pet owners in the shopping centres.

Discussion

Successful Factors of Shopping Centres in Implementing Pet-friendly Practices

The research of “The Successful Factors for Shopping Malls in Hong Kong” (HKIH, 2018) highlights the importance of customer satisfaction as the key factor for success. Effective management plays a vital role in enhancing customer satisfaction. The study aligns with previous research, indicating that pet-friendly practices, particularly those focused on customer satisfaction and professional management, can improve the shopping experience.

Quality Customer Service and Professionalism of Management

From the above results, professional management and customer services related to pets rank high in influencing customer satisfaction levels in shopping centres to both pet owners and non-pet owners. Customers want to feel confident that the pets are being well taken care of and that their shopping experience is hassle-free. Professional management ensures that the shopping centre is well-maintained, clean, and safe for both pets and their owners. Additionally, customer service focused on pets with courtesy and assurance can lead to a positive shopping experience.

Pet-friendly Atmosphere and Culture in the Shopping Centres

Creating a pet-friendly atmosphere and culture in shopping centres can be a key factor in their success. This can be achieved by enhancing the customer experience with the provision of quality of pet-friendly facilities and creating attractive marketing and designs that incorporate pet-related elements. Additionally, the corporate management should make a deliberate effort to promote a pet-friendly culture throughout the shopping centre to make the customers feel the genuinely cares to their needs and become loyalty to the brand.

Pet-friendly Surroundings Environment

The nearby pet-friendly promenades also play a crucial role in the accessibility of the shopping centres. When these promenades welcome pets, it becomes convenient for pet owners to stroll with their pets before and after visiting the malls, making them more attractive to pet owners. As the promenades are owned by the government, promoting a pet-inclusive environment and adding pet-friendly facilities can cultivate a pet-friendly culture and enhance the appeal of the shopping centres to pet owners, creating a welcoming atmosphere in the surrounding areas.

Challenges of Shopping Centres in Implementing Pet-friendly Practices

Balancing the Needs of Pet Owners and Non-Pet Owners

Creating a pet-friendly environment involves striking a balance between the needs of pet owners and non-pet owners. There are some non-pet owners maybe allergic to animals or uncomfortable around the pets. As the mall operators, it is essential to establish clear rules and guidelines for pet owners. These rules may include requiring pets to be on a leash, ensuring that pets are well-behaved and not disruptive, and providing designated areas for pets.

Dealing with Customer Misbehaviour Involving Pets

Individual behaviour can also pose challenges in creating a comfortable environment in shopping centres. Pet owners not cleaning up after their pets can create a nuisance and health hazard. Some children chasing or behaving aggressively towards pets can endanger both pets and themselves. To cope with the situation, mall operators can train staff in preparation to handle pet-related situations and promote positive interactions. On the other hand, the government and society can educate about responsible pet ownership and behaviour, encouraging cleaning up after pets. Fostering respect and responsibility toward animals creates a safer, welcoming community for all.

Confusing Regulations Regarding Pets in Food Premises

The Food Business Regulation (Cap. 132X) under the Food and Environmental Hygiene Department (FEHD, 2022) prohibits pets, except guide dogs, from entering restaurants. However, some restaurants allow dogs in outdoor seating areas, creating ambiguity. The government can continuously review the regulations and build up clear guidelines to help create a more pet-friendly society.

Conclusion

Customer satisfaction is an important factor for cooperation to be successful and maintain its competitive advantages in the industry. Furry companions are as important as the child in this generation. Quality pet-friendly attributes can enhance the customer satisfaction level to different extents. Based on the qualitative and quantitative analysis of the implementation of pet-friendly practices, professional management and customer service play a crucial role in enhancing customer satisfaction and improving the shopping experience for both pet owners and non-pet owners. It is revealed that creating a pet-friendly atmosphere, incorporating pet-related elements, and promoting pet-friendly surroundings can contribute to success. Balancing the needs of pet owners and non-pet owners, dealing with customer misbehaviour, and addressing confusing regulations are key challenges that need to be managed.

Recommendations

Improving Safety and Hygiene Environments for Customers

To ensure customer safety, mall operators can enhance policies by implementing measures similar to Ayala Malls (2021) in the Philippines. By incorporating pet ID registration into existing mobile applications, pet owners can voluntarily register their pets and receive notifications about pet-related activities. Additionally, providing registered customers with a designated leash colour indicating the availability of pet interaction can effectively prevent incidents between pets and non-pet owners.

In addition, management can incorporate AI technology, such as The Arcade at Cyberport's pet monitoring system (HKIH, 2022), to detect and address misbehaviour by pets and their owners. UV technology can also eliminate unclean areas and pet-related odors (HKIH, 2023), improving shopping centre cleanliness and safety.

Providing Sufficient Pet-related Training and Guidelines

To ensure a positive shopping experience for both pet owners and non-pet owners, shopping centres should focus on training their staff to provide empathetic and professional customer service. This includes being friendly, courteous, and knowledgeable about the pet-friendly policy and regulations. Staff should also be trained to react immediately to any emergency situations that may arise due to the pet-related policy. Moreover, flooring in pet facilities should be comfortable, and space should be well-arranged with clear division of zones and signages. This allows pet owners to walk their pets freely without affecting those who are afraid of animals.

Establishing Norms for Promoting a Pet-friendly Atmosphere

Shopping centres can create a pet-friendly atmosphere and culture by implementing norms for pet owners, such as a colour-coded leash system. As suggested by Better Cities for Pets (2021), a green leash could indicate that the pet is welcoming others to play with, while a yellow leash implies the owners of the pet have to be asked first before touching. A red leash can indicate that the pet is wary of strangers. This can help non-pet owners feel more comfortable around pets and encourage interaction between pet owners and non-pet owners.

Fostering a Pet-friendly Community among Pet Owners and Non-Pet Owners

The ideal vision for the whole society is to create a pet-friendly community for both pet owners and non-pet owners. To achieve this, shopping centres can help build a community among pet owners through events and activities which gather the people together. Cooperation with organizations such as SPCA and SAA can also help educate people on responsible pet ownership and prevent the abandonment of pets. For non-pet owners, workshops can be held to teach them how to hold and interact with pets. Turning pets into furry ambassadors and as a bridge to connect different people to create a pet-friendly society.

References

Ayala Malls, 2021, Ayala Malls Pet Policies: What You Need To Know.
<https://www.ayalamalls.com/>

Better Cities for Pets, 2021, *Annual report*. Mars Petcare.
<https://www.bettercitiesforpets.com/resource/2021-report/>

Bouma, E. M. C., Reijgwart, M. L. and Dijkstra, A., 2022, Family Member, Best Friend, Child or “Just” a Pet, Owners’ Relationship Perceptions and Consequences for Their Cats. *International Journal of Environmental Research and Public Health*, 19(1), 193–.

Chen, Y. H. and Su, C.T., 2006, A Kano-CKM model for customer knowledge discovery. *Total Quality Management & Business Excellence*, 17(5), 589–608.
<https://doi.org/10.1080/14783360600588158>

Companion Animals New Zealand, 2020, Companion Animals in New Zealand 2016. Auckland, New Zealand.

Festival Place, 2022, *Dog Friendly*.
<https://www.festivalplace.co.uk/>

Food and Environmental Hygiene Department (FEHD), 2022, The Food Business Regulation (Cap.132X).

Füller, J. and Matzler, K., 2008, Customer delight and market segmentation: An application of the three-factor theory of customer satisfaction on life style groups. *Tourism Management* (1982), 29(1), 116–126.

Gitlow, H., 1998, *Innovation on Demand*. *Quality Engineering*, 11(1):79–89.

Hallowell, R., 1996, The relationships of customer satisfaction, customer loyalty, and profitability: an empirical study. *International Journal of Service Industry Management*, 7(4), 27–42.

Hong Kong Planning Department, 2009, Hong Kong planning standards and guidelines: *Chapter 6 : Retail Facilities*. HKSAR: Planning Department.

Institute of Shopping Centre Management (ISCM), 2022, Oct, Reshaping the Future of Shopping Malls. (59), 4-5.

Kametani, T., Nishina, K. and Suzuki, K., 2010, Attractive Quality and Must-be Quality from the Viewpoint of Environmental Lifestyle in Japan. In: Lenz, HJ., Wilrich, PT., Schmid, W. (eds) *Frontiers in Statistical Quality Control 9*. Physica-Verlag HD.

Kano, N., Seraku N., Takahashi F. and Tsuji S., 1984, Attractive Quality and Must-be Quality, *Hinshitsu: Journal of the Japanese Society for Quality Control*, 14(2), 147-156.

Martilla, J. A. and James, J. C., 1977, Importance-Performance Analysis. *Journal of Marketing*, 41(1), 77–.

McConnell, A. R., Brown, C. M., Shoda, T. M., Stayton, L. E. and Martin, C. E., 2011, Friends With Benefits: On the Positive Consequences of Pet Ownership. *Journal of Personality and Social Psychology*, 101(6), 1239–1252.

Oliver, L. R., 1997, *Satisfaction: A behavioral perspective on the customer*. New York, NY: McGraw-Hill.

Palmer, Clare, 2013, Companion Animals. *The International Encyclopedia of Ethics*.

Parasuraman, A Parsu, Zeithaml, V. and Berry, L., 1985, A Conceptual Model of Service Quality and its Implication for Future Research (SERVQUAL). *The Journal of Marketing*, 49. 41-50.

Smith, B., 2012, The pet effect: Health related aspects of companion animal ownership. *Australian Family Physician*, 41(6), 439-442.

Springfield Central, 2018, *Dog Friendly Zones*.
<https://www.orionspringfieldcentral.com.au/>

The Hong Kong Institute of Housing (HKIH) and PolyU Technology and Consultancy Company Limited (PTeC), 2017, *The Successful Factors for Shopping Malls in Hong Kong* (Report No. RC1516/031). Commissioned by HKIS Property and Facility Division.

The Hong Kong Institute of Housing (HKIH), 2022, *Yearbook 2021*. Publications.
https://assets.housing.org.hk/2022/01/HKIH_Yearbook_2021_full_version_150dpi_25fc48d462.pdf

The Hong Kong Institute of Housing (HKIH), 2023, Smart Property Management GET READY. *Housing Dynamics*.
https://assets.housing.org.hk/2023/03/Housing_Dynamics202302_8954169acf.pdf

The Institute of Customer Service, 2021, Jul, UK Customer Satisfaction Index (UKCSI).

U.S. Department of Agriculture (USDA), 2022, Aug, Pet Travel Definition of a Pet.

Van der Wiele, T., Boselie, P. and Hesselink, M., 2002, Empirical Evidence for the Relation between Customer Satisfaction and Business Performance. *Managing Service Quality*, 12. 184-193.

Wernerfelt, B., 1984, A Resource-Based View of the Firm. *Strategic Management Journal*, 5(2), 171-180.

Wood, L., Martin, K., Christian, H., Nathan, A., Lauritsen, C., Houghton, S., Kawachi, I. and McCune, S., 2015, The Pet Factor - Companion Animals as a Conduit for Getting to Know People, Friendship Formation and Social Support. *PLoS One*, 10(4).

Wu, H.H., Tang, Y.T. and Shyu, J.W., 2010, An integrated approach of Kano's model and Importance-Performance Analysis in identifying key success factors. *African Journal of Business Management*, 4 (15), 3238-3250.

Yorktown Centre, 2020, *Dog-Friendly Policy*.
<https://yorktowncentre.com/>



Is Co-living an Unpreferred Housing Option for Young Adults in Hong Kong?



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1. Introduction

Hong Kong is well-known for its sky-rocketing housing price over the world. Generally, domestic residential property prices have been elevating since 2000. According to the survey launched by Demographia International Housing Affordability (2022), Hong Kong is ranked as the No.1 severely unaffordable housing market as the housing prices to income ratio of Hong Kong jumps from 17 in 2014 to 23.2 in 2021. As a result, most of the young generation are observed living with their parents to pile up savings for future payment of houses. Even some young adults have postponed their departure schedule from their parental home since they will move out from their family until the age of their first marriage (Xian & Forrest, 2018).

Some young adults keen on tasting independence may consider a home rental. Co-living spaces appear as a cost-effective and lifestyle housing option available to young adults. Over 20 co-living service providers are born and expanded rapidly apart from Government subsidized operators. Bed space inside a co-living unit usually is charged from HK\$3,500 to \$46,000 by private operators, while the rent starts from HK\$7,650 for a furnished studio. The rent is 30% to 50% of their monthly income. Therefore, it is questionable whether co-living can be a suitable housing solution to solve the housing hardship in Hong Kong.

In this research, quantitative research is employed in evaluating whether co-living is a preferable housing option to Hong Kong young adults; t-test, multiple regression and Pearson Correlation Analysis method is applied to examine whether co-living, can be an alternative to solve the housing problem among the young generation in Hong Kong concerning their housing needs. Jusan (2017) suggested that preferred housing attributes are derived from Maslow's Hierarchy of Needs. Kim & Kim (2017) also stated that "Housing needs, which are needs related to housing in basic needs that humans have, which is reflected by a bundle of attributes such as locational, structural, neighbourhood and personal characteristics". Indicated by Zavei and Jusan (2017), housing functions can affect housing preferences significantly which are assessed as well in this research.

Reviewing all the factors and housing preferences among our participants, surprisingly co-living is not considered as a preferable housing choice which is different from the findings and literatures from other cities. As Forrest & Xian (2018) explain that “the major contributory factor” for the Hong Kong youth discontent is the housing problem. Once all people’s housing needs are fulfilled, people will be satisfied with the government, and social stability can be achieved in return. Therefore, we go further with our study and notice the private-ownership is the most preferable option for the Hong Kong young cohort though the housing price is sky-high and unaffordable. We further point out the major stakeholder, the Hong Kong Government should take such initiatives to resolve the housing issue as increase the land supply for housing and promoting the development in Greater Bay Area. Future qualitative research should be carried out to capture the personal opinion and feelings in connection with the current research question.

2. Literature Review

2.1 Theoretical Framework: Maslow’s Hierarchy of Needs

Maslow (1943) developed a motivational theory in psychology explaining human needs in five-stage hierarchical levels represented with a pyramid. The bottom tier of the pyramid is physiological needs, followed by safety, social, esteem, and self-actualization.



Figure 1. Maslow’s Hierarchy of Needs

Note. Adopted from “A theory of human motivation” by A. H. Maslow, 1943, *Psychological Review*, 50(4). Copyright 1943 by Maslow.

2.2 Housing Preferences of General Population and Young Adults in Hong Kong

As discussed by Kim & Kim (2017), housing needs have a strong relationship with basic human needs and housing preferences change depending on time and geography which can be evaluated in terms of different attributes (Wang & Li, 2006), including locational, neighbourhood, structural, value, lifestyles (Teck-Hong, 2012), and income level (O'Dell et al., 2004).

Locational attributes of housing are defined as the distance between workplace and home. The house's location becomes necessary when looking for shorter work distances and well-developed transportation facilities in Hong Kong. For Neighbourhood attributes of housing are defined as the environment, security, and cleanliness of the neighbourhood of the dwelling place. The high density of housing units in high-rise buildings in Hong Kong turns neighbourhood attributes into crucial factors. People may consider spending a higher cost and choose co-living spaces if it is beyond their acceptance.

Personal characteristics contribute to different housing preferences which are presented as personal value, lifestyle and the income level. In Hong Kong, the cultural importance of interdependence among family members is a key factor for adult children to stay in their parent's homes. It is generally expected in Chinese culture that one will not leave his family until he gets married. Lastly, O'Dell et al. (2004) stated that "Measures of housing affordability are generally based on assumptions on what should be paid for housing", which means that income level determines housing affordability and controlling housing choices.

2.3 Housing Options Available for Hong Kong Young Adults

Though young people share the inspiration of owning a flat with a symbol of personal accomplishment, it is out of reach for most young adults with the high rising appreciation rate of asset value. And housing rental which is the most dominant housing option among young adults. They love staying in public rental housing (PRH). However, the competition for allocating a PRH is very keen. Thus, many young adults are forced to cut their spending elsewhere to pay the high rent of private unit. Apart from the above options, co-living becomes a more economical alternative among young adults, and residents can enjoy above-average living conditions by occupying a private or shared room.

2.4 Co-Living

The initial idea of co-living is born in 1972 in Denmark and further developed into new co-living housing arrangement in such in urban cities as Hong Kong, London and Tokyo. Co-living often refers to a new housing option or arrangement where residents will be provided with individual room and shared spaces (kitchen, washroom, and living room) are shared by all housemates. Co-living is described as a place gathering people from all walks of life with similar thoughts. Swimming pool and gym will be provided by higher standard co-living spaces.

Co-living relatively has a shorter history in Hong Kong. Now nearly 20 private operators including worldwide Dash Living and local brand Ootopia can be found in town and mainly concentrated in CBD e.g. Tsim Sha Tsui, Wan Chai and Central. Besides, public co-living space named as Youth Hostel also introduced by the Hong Kong Government in the 2011 – 2012 Policy Address and further developed the idea ten years later in the 2022 Policy Address with the support of the first Youth Development Blueprint.



2.5 Factors for the Popularity of Co-living

Co-living is very popular in many regions such as China, Europe and the U.S.A. It penetrates the housing market due to the unaffordability of housing costs, rapid urbanization, and lack of housing stocks. Elevating costs for homeownership forces people to co-living. According to the Youth Research Centre of the Hong Kong Federation of Youth Groups (2019), 64.4% of young adult respondents said they would not consider entering the homeownership market, while 70.4% said they would not rent a private flat in the coming five years. Even one-third of the respondents claimed it would take them at least 17 years to be homeowners. The above reflects that economic difficulty has hindered young adults' housing choices.

Thanks to rapid urbanization, most young adults leave their place of birth and move to large cities such as Jakarta in Indonesia to look for jobs. Mangkunegara, et al. (2020) state that Jakarta, as a capital is more well-developed offering better and wider ranges of option for career development. This increases the housing demand sharply and co-living can be a favorable choice among the youth.

With reference of Beck (1990) and Beck-Gernsheim (2002), social individuum is claimed as another important reason for the growth of co-living. In Amsterdam, most of the youth like moving out for the sake of "social and intimate relations" replacing the traditional social unit, kinship. Co-living is also framed as a synonymous of triumph and fashionable way of living to a certain extent.

The ultimate goal of enterprises and investors is to make the highest return with minimal input. Co-living appear as a seducing business to them. "Out of the various targets of post-crisis global real estate investment, shared housing represents a particularly profitable and largely untapped new asset class." (Ronald et al., 2023, p.5). Such a high-sounding position together with housing shortage, it marks the success of co-living.

2.6 Benefits of Co-living

Social networks and convenience are the major benefits motivating the young generation to turn to co-living. Residents embrace the social network of like-minded people engaged in collective co-living. Secondly, co-living provides true comfort and convenience to the residents with the fully furnished apartment. Everything a resident needed is already covered by a simple bill including rent, tax, WiFi, utilities, room cleaning, gym membership and regular event (The Collective).

2.7 Disadvantages of Co-living

Yet, co-living has been criticized for its lack of privacy, insufficient storage space, problem of routine and fear of conflict. Usually, it appears as a studio flat or lodge equipped with only basic furniture such as a bed, a cabinet, a desk, and a chair. 68% of females and 40% of males have reflected that lack of storage space is an obstacle to co-living in the research conducted by Mangkunegara et al. (2020, p 4). In co-living, there are relatively more communication and interaction among residents. People having different views about social and political issues in a casual chat may create a quarrel.

2.8 Motivation of This Research

We discovered that previous studies of housing needs with Maslow's Hierarchy of Needs focus only on the general housing issue but not specifically for co-living. Since co-living is a new housing model in Hong Kong with its unique social, political, cultural and economic geographical factor, we are interested in analyzing whether co-living spaces can match human needs, preferences and whether it is the preferable and feasible option for young adults to live with. Also, we will address which housing arrangement is the most favorable for our respondents and put forward some recommendations on how to draw strategic housing plans.

3. Research Method

Quantitative approach is adopted for our studies. We have successfully acquired 149 Hong Kong young adults aged 18 to 40 during 1 January to 15 February 2023 via online or face-to-face Chinese questionnaire. 5-point Likert Scale is taken to show the respondents' feedback. T-test is used for comparing statistical difference among different housing choice, housing attributes and residential functions among co-living and non-co-living participants. Meanwhile, Pearson Correlation Coefficient is applied to study the correlation between level of interest in co-living and categorical variables, and between salary and percentage of maximum monthly rent on co-living. In addition, multiple regression model is adopted to study significance levels of different housing or personal attributes variables in predicting the level of interest in a co-living space.

4. Analytical Framework and Result

4.1 Correlations Between Levels of Interest in Co-living and Categorical Variables

The Pearson correlation test is used to analyze the correlation between the level of interest in co-living and various categorical variables. The result indicates that only housing tenure, age, marital status, and the number of family members are significantly correlated with the level of interest in co-living.

Table 1

Pearson Correlation Coefficient between level of interest in co-living and various categorial variables

	Level of Interest in Co-living	
	r	p
Housing Tenure	-0.37	<.001***
Age	-0.25	.005**
Education	-0.02	.80
Salary	-0.10	.25
Marriage Status	-0.19	.03*
Number of family member	-0.26	.004**

Note. r= Pearson Correlation Coefficient, p=p value
 ***. p value is significant at <.001 level (two-tailed)
 **. p value is significant at .01 level (two-tailed)
 *. p value is significant at .05 level (two-tailed)

4.2 Correlation Between Salary and Percentage of Maximum Monthly Rent for Co-living

The Pearson correlation test is used to analyze the correlation between the salary and percentage of maximum monthly rent on co-living. The result indicates that there is a significant and negative correlation between salary and percentage of maximum monthly rent on co-living, which suggest that high-earning people are not less willing to spend a large budget on co-living spaces.

4.3 Whether Co-living Space is a Temporary or Long-term Housing Choice

To test whether co-living space is a temporary or long-term housing choice, both with-in subject paired t-test and between-subject independent t-test are taken. Participants are required to rate to what extent they agree with the following statements: (1) Co-living space is a long-term housing choice, (2) Co-living space is a temporary housing choice, in a 5-point Likert scale. It shows a significantly higher share of current co-living residents believe that co-living space is merely a temporary housing choice rather than long-term housing choice. Similarly, non-co-living group participants apparently deem that co-living space is only a short-term housing choice. It also illustrates that housing tenure does not significantly affect the participants' perception of whether co-living space is a long-term or temporary housing choice.

Table 2

Differences between whether co-living space is a temporary or long-term housing choice among those residing in co-living space and non-co-living space

	Co-living		Non-co-living		df	t	p	Cohen's d
	M	SD	M	SD				
Long-term Housing Choice	2.04	1.19	1.95	.88	133	.48	.63	.09
Temporary Housing Choice	4.23	1.08	3.91	.95	132	1.79	.08	.32
df	51		81					
t	8.02		10.92					
p	<.001***		<.001***					

Note. M=mean. SD=Standard Deviation. df=Degree of Freedom. t=t value. p=p value.

***. p value is significant at <.001 level (two-tailed)

**. p value is significant at .01 level (two-tailed)

*. p value is significant at .05 level (two-tailed)

4.4 Housing Attributes that Determine One's Housing Choice

Independent t-test is used to assess a self-rated importance level of various housing or personal attributes for deciding one's housing choice among those participants residing in co-living space and non-co-living space. There are six attributes examined in our study as shown in Table 3: (1) Locational attributes of Housing, (2) Neighbourhood attributes of housing, (3) Structural attributes of housing, (4) Values attributes, (5) Lifestyle attributes as referenced to those explanatory variables as proposed by Tan (2012) and Kam (2018), (6) Income as mentioned by William O'Dell et al, (2004). To measure the six attributes, the importance level of related items is averaged under each housing or personal attribute. The result suggests that both the locational and income attribute are the most important ones influencing participants' choice.

Table 3

Variables Used in the t-test and multiple regression model

IVs	Categories	Definition
1. Location Attributes of Housing	Retail shops	Travelling time to retail shops
	Schools/workplaces	Travelling time to schools or workplaces
	Public transport	Travelling time to public transport facilities such as MTR station and bus stop
	Recreation	Travelling time to recreational facilities such as park and swimming pool
2. Neighbourhood Attributes of Housing	Environment	Quiet environment
	Neighbour	Close relationship with neighbours
	Neighbour	Socio-economic status of neighbours
	Guarded	Gated neighbours and communities
3. Structural Attributes of Housing	Bathrooms	Number of bathrooms
	Bedrooms	Number of bedrooms
	Living	Size of a living area
	Kitchen	Size of a cooking area
	Built-up	House size
4. Values	Cost	Housing cost
	Habit	Saving habit
	Relationship	Relationship with family
	Relationship	Relationship with friends
5. Lifestyle	Dining-out	Frequency of dining-out
	Shopping	Frequency of shopping
	Job hopper	Frequency of changing job
6. Income	Salary	Average personal monthly salary

Note. From "Evaluating housing needs and preferences of generation Y in Malaysia" by K. J. Kam, 2018, *Planning Practice & Research*, 33(2). Copyright 2018 by Kam et al. From "Meeting first-time buyers' housing needs and preferences in greater Kuala Lumpur" by J.T. H. Tan, 2012, *Cities*, 29(6). Copyright 2012 by Tan et al. From "Weaknesses in Current Measures of Housing Needs, Housing and Society" by William et al., 2004, 31(1). Copyright 2004 by William et al.

4.5 Predictors of Levels of Interest in a Co-living Space

Multiple regression model is taken to exhibit significance levels of different housing or personal attributes variables mentioned in predicting the level of interest in a co-living space. In terms of significance level, the unique contribution of locational and structural attribute in predicting level of interest in co-living are statically significant, which reflect those Hong Kong young adults who are more sensitive on daily travelling time between their house and communities show more interest in co-living, and those Hong Kong young adults who are relatively less sensitive on housing size, number of bedrooms and other structural factors show more interest in co-living.

4.6 Preferences of Residential Functions

There are eight residential functions as defined by Kim & Kim (2017) in deciding one's housing choice including Safety, Comfort, Convenience, Independence, Economic, Sociality, Relaxation, Expressivity. Residential functions are measured in a 5-point Likert Scale. An independent t-test is performed to identify the significance level of each residential function of our respondents. The result suggests that Hong Kong young adults would consider travelling time to community facilities, physical protection around their house, and environmental conditions when making a housing decision.

5. Discussion

Reviewing the results in result, we have found that co-living is neither treated as a long-term housing choice nor a preferable housing option among Hong Kong young adults. Yet it is not an alternative to solve the housing problem in Hong Kong.

5.1 Housing Needs Change with Different Stages of Life Cycle

Table 1 shows that participants are less interested in co-living when they get married and grown up. The housing needs for married couples and grown-up adults have shifted from looking for social life to persuading the self-actualization needs of self-controlling their own living space (i.e. Level 5 of Maslow Hierarchy) without sharing with others. Co-living will not be a good choice to raise the children as privacy is not entertained and spaces are simply not enough which is paralleled with the view of Gürel et al. (2014) Therefore, the co-living space is not suitable for the above group.

5.2 How Different Housing Attributes of Co-living Spaces are Viewed by Hong Kong Young Adults

When co-living has been first introduced to Hong Kong with the inspiration of the young hostel, it has prompted the sharing of social networks and connections that can satisfy the lifestyle and value attributes of young adults. The building of relationships with friends which are rated the highest importance for the co-living respondents under the values while viewing differently from non-co-living respondents who see relationship with family is the most important. Co-living is presented with the unique attributes of an independent lifestyle and the value of making new friends, but it fails to captivate the Hong Kong young adult as their housing option.

5.3 Co-living Is Not Considered as An Affordable Housing Option for Hong Kong Young Adults

Referring to Table 2, non-co-living and co-living residents agree that co-living is temporary housing in which no differentiation is realized due to housing tenures. While surprisingly, co-living residents see income level as less important than the resident of other tenures, evidenced by the unique situation of the cost of co-living in Hong Kong. From our case studies of western countries and even the cities of Southeast Asia, co-living is affordable housing option as the rent is cheaper with shared common facilities compared to private rental housing. However, the local co-living charges HK\$8,100 to HK\$16,000 for a single bedroom monthly. There are private rental units with a kitchen, dining and living room with similar prices in the same district. Cheaper co-living is located in less convenient places. In short, co-living cannot fulfil the criteria of income level in Hong Kong.

Though both co-living and non-co-living respondents grade convenience as the top three most important housing functions explained as the travelling distance and time to community facilities when considering the choice of housing, it is not the sole consideration, while comfort and relaxation are also scored higher than 4 when deciding their housing choices that is different from the attributes of the respondents considering the choice of co-living which reflect the highest level of housing needs that rated the least important when the Hong Kong young adults taking consideration of living in co-living. It is predictable that relaxation cannot be satisfied by co-living as people conflict is easily created with different residents in sharing common facilities. It further implies that esteem need and the self-actualization of Maslow Hierarchy of Needs which are missing from co-living.

If we suggest co-living is affordable housing, the economic factor is important for choosing a housing. The respondents should choose co-living as the most preferable housing, where Table 4 shows co-living is not the preferable housing tenure and surprisingly 50% of the co-living respondents choose private ownership and only 8% prefer living in co-living. Private homeownership is extremely unaffordable, however, it is still preferable under the housing needs of the Hong Kong young adults based on our research.

Table 4

Preferable Preferred housing tenure by current housing tenure status

Current tenure \ Preferred tenure	Co-living spaces	Public Rental Housing	Private Rental Housing	Government Subsidised Homeownership	Private Ownership	Other	Not answered
Co-living spaces	8.33%	16.67%	0.00%	0.00%	50.00%	0.00%	25.00%
Public Rental Housing	2.63%	5.26%	10.53%	13.16%	44.74%	5.25%	18.42%
Private Rental Housing	9.52%	0.00%	2.38%	2.38%	52.38%	0.00%	33.33%
Government Subsidised Homeownership	3.57%	0.00%	0.00%	3.57%	67.86%	0.00%	25.00%
Private Ownership	0.00%	0.00%	2.17%	2.17%	60.87%	0.00%	34.78%
Other	0.00%	0.00%	0.00%	0.00%	20.00%	0.00%	80.00%

Note. Public Rental Housing includes Public Rental Housing (living with family of orientation). Private Rental Housing includes Private Rental Housing (living with family of orientation). Co-living spaces includes Co-sharing house with friends

5.4 The Housing Needs of Hong Kong Young Adult Cannot Be Satisfied by Co-living Spaces

It has been discussed that housing needs equal to human needs, the needs of human affect the choice of housing of the Hong Kong young adults (Kim & Kim, 2017). When the basic needs in terms of function of safety, comfort, convenience, and independence can be satisfied, people looking upward for economic and sociality for achieving the social and esteem needs. In this research, we have observed the most desirable housing needs of Hong Kong young adults cannot be explained simply by the Maslow's Hierarchy of Heeds which are the combination of convenience, safety, comfort, and economic functions and they cannot be satisfied by co-living unambiguously. It is trusted that with the combination of housing functions, young Hong Kong adults do not sacrifice the comfort and relaxation for the long-term housing which further proves that co-living cannot be considered as a preferable housing.



6. Recommendation

It is noticed that co-living is viewed as a temporary housing choice among Hong Kong young adults, which can hardly be a solution to the housing problems. It is undoubtedly that co-living or the Youth Hostel Scheme Program may provide a short-term housing option for youth in urgent and necessary need of housing. However, it is questionable that there is only total of approximate 6,800 bed spaces will be available throughout the whole Youth Hostel Scheme in the next ten years and criticized for wasting of public funding and land resources. This is a long-lasting phenomenon that are in the same line of our research results where the majority of interviewees regard ownership of private property as the most preferred housing tenure.

The Hong Kong Government should immediately suspend the co-living projects in progress or reallocate the resources such as land, building materials and labour from building co-living to development of subsidized housing. Also, Government should increase the supply of “Starter Homes” Pilot Scheme in new development projects such as The Development at Anderson Road, The Renewal of Tai Hang Sai Estate and eResidence. Other than increase the supply of subsidized housing, Government should expand the land bank by reclamation and purchasing the farmland, brownfield; conversion of vacant public land, such as former Government dorms into residential use; and uplift the proportion of public land supply of the “Lantau Tomorrow Vision” and “Northern Metropolis Strategy” stated in the 2018 and 2021 Policy Address respectively. Moreover, the Government can release restrictions such as plot ratios, height restrictions in New Territories area. The Government should encourage young adults to move and develop in the Greater Bay Area by highlighting its better living environment and lower housing price.

7. Conclusion

Whether the housing problem can be solved largely depends on how the Government priorities the issue against different social needs competing for public resources. As the general public has been suffering from sky-high housing prices over 20 years, we sincerely hope that Government officials will put immense efforts into tackling the issue seriously. Young adults in Hong Kong will achieve multiple levels of Maslow’s Hierarchy of Needs and obtain a strong sense of satisfaction when they can attain their aspiration of homeownership successfully. It will lower the discontent of the young generation and create a better society.

8. References

- Beck, U. & Beck-Gernsheim, E. (2002) *Individualization, Institutionalized Individualism and Its Social and Political Consequences* (London: Sage).
- Gürel, Betül & Oztop, Hulya. (2014). Family Lifestyle and Housing Preferences during the Process of Globalization: The Case of Turkey. *Journalism and Mass Communication*. 4. 787-793. 10.17265/2160-6579/2014.12.007.
- Kam, K. J., Lim, A. S. H., Al-Obaidi, K. M., & Lim, T. S. (2018). Evaluating housing needs and preferences of generation Y in Malaysia. *Planning Practice & Research*, 33(2), 172-185.
- Kim, J. S., & Kim, J. M. (2017). The relation between housing needs and housing function according to the Maslow’s theory of needs. *KIEAE Journal*, 17(4), 13-19.
- Mangkunegara, S N, N Nurdiani, and W Katarina. (2021). The Study of Millennial Needs and Willingness to Share Living Space in Jakarta, Indonesia. *IOP conference series. Earth and environmental science* 794. 1: 1216, pg 4 and 7
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-96.

n.a.(2022) "DEMOGRAPHIA INTERNATIONAL HOUSING AFFORDABILITY 2022 EDITION" Urban Reform Institute and the Frontier Centre for Public Policy. 1-23.

Ray Forrest & Shi Xian (2018). Accommodating discontent: youth, conflict and the housing question in Hong Kong, *Housing Studies*, 33:1, 1 17. DOI: 10.1080/02673037.2017.1342775

Shi Xian & Ray Forrest (2020). The post-80s generation: exploring the attitudes toward family and housing. *Journal of Youth Studies*, 23:6,780 796, DOI: 10.1080/13676261.2019.1636949

Tan, T. H. (2012). Meeting first-time buyers' housing needs and preferences in greater Kuala Lumpur. *Cities*, 29(6), 389-396.

Teck-Hong, T. (2012). Housing satisfaction in medium-and high-cost housing: The case of Greater Kuala Lumpur, Malaysia. *Habitat International*, 36(1), 108-116.

Wang, D., & Li, S. M. (2006). Socio-economic differentials and stated housing preferences in Guangzhou, China. *Habitat International*, 30, 305–326.

WeLive Corporate(n.d.) Retrieved October 4, 2022, from <https://www.welive.com>.

William O'Dell, Marc T. Smith & Douglas White (2004) Weaknesses in Current Measures of Housing Needs, *Housing and Society*, 31:1, 29-40, DOI: 10.1080/08882746.2004.11430496

Youth Research Centre of Hong Kong Federation of Youth Group (2019) "Co-living: An Alternative Hong Kong Housing Solution for Youth". 1 October 2022, Retrieved from <https://yrc.hkfyg.org.hk/2019/08/21/yi044/>

Zavei, S.J.A.P. and Jusan, M.B.M. (2017), "End-Users' Perception from Housing Needs Based on Maslow's Theory of Motivation", *Open House International*, Vol. 42 No. 1, Vol. 42 No. 1, pp. 58-64. <https://doi.org/10.1108/OHI-01-2017-B0009> p.56-58