

## Conference Paper

# Achieving Community Happiness through Affordable Eco-Friendly Smart Houses

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## Abstract

The significant lack of affordable house is contributed by urbanization, economic power, and population growth. Accessible housing views having different types of houses at variety of costs to suit the needs of different levels of household income. This paper proposes to resolve the unaffordable house issues by constructing eco-friendly smart houses. Eco-friendly smart houses play a vital role in developing affordable houses because it will minimize construction costs, minimize negative environmental impact and reduce energy consumption. Besides, it was suggested that those houses will lead to community happiness. This study identifies the determinants for buyer intends to purchase the houses and make recommendations on the impact of the houses towards community happiness expectation. Questionnaires have been distributed to the potential buyer using the online application. The results conclude that attitude, perceive behavioral control and social media influence potential buyer intention to purchase the affordable eco-friendly smart houses. The findings further reveal that purchase intention leads to expectation on community happiness. This study contributes in two ways. First, it contributes to sustainable development goals agenda and offers a new approach in constructing affordable houses. Second, it contributes to theoretical development on the linkage between purchase intention and expectation on community happiness.

**Keywords:** Affordable houses, Eco-friendly houses, Smart houses, Community happiness, Sustainable development goals

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## 1. Introduction

The symptomatic lack of affordable houses is contributed by urbanization, economic power, and population growth. The rapidly rising cost of housing in large cities coupled with high migration from rural to urban places are driving people to be homeless. Based on Issarachon Foundation and the ministry's Center for Prevention and Solving the Issues of Street Beggars and Homeless persons, there were 3,249 people homeless in Thailand in 2014. In Malaysia, a survey by Kuala Lumpur City Council (DBKL) found that 1,500-2,000 people homeless in Kuala Lumpur in 2016. The underlying issue is

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not due to low supply of houses. Indeed, the main concern is that people cannot afford to own a house due to the high price. There are many cities in the world flooded with expensive houses that relatively unaffordable to be owned by low-income people. In India, the unsold residential stock increased marginally in September 2017 [1]. In Malaysia, Bank Negara Malaysia reported that in the second quarter of 2017, the total of unsold residential properties stood at 146,467 units, the highest in a decade due to a shortage of affordable houses. The recent high price in housing market globally is against the continuing efforts in developing sustainable housing [2]. With this regards, the Malaysian government targeted to provide 606,000 new affordable houses during the 11th Malaysia Plan (from 2016 to 2020) and are considering using the Industrial Building System (IBS) for environmental control.

Affordable housing views having different types of houses a variety of costs to suit the needs of varying levels of household income. Ironically, the upper and middle-income households afford to purchase the houses in the marketplace. The primary concern is for lower income households group. They have limited access to affordable housing and the way to overcome it is by focusing on sustainable, low-cost housing [3]. The previous study suggests that affordable houses can be constructed through a sustainable process including the design and materials selection [4]. Energy conservation with eco-friendly elements such as renewable and recycled material is another factor that contributes to cheaper constructing costs. The reduction of construction costs on eco-friendly smart houses is due to the usage of energy efficiency such as coal and solar panel compared to traditional construction that highly dependable on electricity.

Henceforth, parallel to focusing on affordable houses, growing concerns have also been increased to have environmental friendly (eco-friendly) houses. It is notable that the earth system is increasingly alarming danger signals in various aspects include climate change, ocean health, deforestation, the water cycle, the nitrogen cycle, and the carbon cycle. These threats are harming the biodiversity of the planet and also billions of human lives. In this kind of chaos, it is our utmost responsibility to preserve the earth and all living things on it.

The above issues on affordable houses, sustainable living, climate change, and smart technologies innovation are the Malaysia national aspiration incorporated in Sustainable Development Goals (SGD). In the same vein, 2050 National Transformation (TN50) also emphasizes to build eco-friendly and sustainable buildings with further advancement in smart technologies for future economy, social and environment. To achieve both national agendas, having eco-friendly smart houses play a vital role. Constructed with appropriate methods, materials, landscaping, and designs, the construction of such

houses will have a minimum adverse impact on the environment, reduce the energy consumption and will enhance the liveability of the community. The smart infrastructure will able the developer to provide a large proportion of affordable housing which lowers the construction costs. This initiative was made to uplift the quality of life of the bottom 40 percent of the household (B40) income group and affordable for them to purchase the houses.

However, despite the government efforts in promoting the eco-friendly smart houses, there is a knowledge gap on the determinants that affect the buyers' intention to purchase such houses where the eco-friendly smart house project in Malaysia is currently at an infant stage. Besides, little is known on the impact of affordable eco-friendly smart houses towards expectation on community happiness. Integrating eco-friendly features, for instance, rain harvesting, using more solar energy and eco-friendly building materials which cost less; and equip the houses with smart technologies that will enable a reduction in electricity consumption, eventually will reduce the overall costs of owning and occupying the house. This study suggests that developing eco-friendly smart houses will be affordable to the buyers to own a house. The objective of this study is to examine the determinants that affect the buyer's intention to purchase affordable eco-friendly smart houses. Determinants in this study are attitude, subjective norm, perceived behavior control, and social media. This study further aims to investigate whether the buyer expects happiness from their intention to purchase affordable eco-friendly smart houses.

The term affordable housing defines by [5] as housing which is adequate in quality and location, not so costly that it prevents its occupants from meeting other basic living needs. The eco-friendly smart houses proposed in this study will have a combination of eco-friendly and smart technology features. The eco-friendly houses have been or will be designed and constructed with the environmentally friendly features such as rainwater harvesting system installed to collect rainwater from the sloping rooftops for irrigating plants and vegetation and the use of low carbon-emitting construction materials. The smart house refers to houses that feature with wireless networks, smart home appliances, digital citizen services, and smart sensor technologies which should elevate standards of living and commerce with social and environmental capitals [6]. These functions provide the flexibility of monitoring its electricity consumption and making lifestyles changes to save electricity [6].

## 2. Theoretical Framework and Literature Review

## 2.1. Theoretical framework

Hypotheses are developed based on three constructs which are attitude, subjective norms and perceived behavioral control suggested in the Theory of Planned Behaviour (TPB). TPB was initiated by [7] and is considered the most well-known theoretical model in determining purchase intention. In TPB, a person's behavioral intention is conceptualized as influenced by an attitude, subjective norms and perceived behavioral control [7]. Correctly, TPB has been applied in previous studies to investigate the determinants that influence consumers' behavior to purchase a property ([8]; [9]; [10]), factors to purchase environmentally product ([11]; [12]; [13]) and elements in purchasing smart product [14].

Having considered the latest trend in influencing consumer behavior, this study includes one more construct which is social media. The way human communicates has changed drastically with the existence of social media via the internet and technology applications. Advertisement, promotion, and information through social media, for instance, Facebook and Instagram are effective and efficient medium to reach consumers. Technology Acceptance Model (TAM) by [15] explained the possibility of a user's behavioral intention in using technology. Moreover, it was proven by an empirical study of [16] that mobile advertisement influence purchase intention among youth in Malaysia and also empirical study by [17] concludes that social media effect online purchases intention in Saudi Arabia.

Nevertheless, the current study will not examine the relationship between purchase intention and purchase behavior as conceptualized in TPB due to the construction of combination eco-friendly houses and smart houses are newly proposed in this study and the development of such houses are at an infant stage in Malaysia. Hence, there will be no actual purchase behavior and subsequently no respondent for purchase behavior. Alternatively, this study attempts to extend the purchase intention impact on the expectation of community happiness. In other words, the intention to purchase the house or the desire to purchase the house is expected to fulfill potential buyer happiness which is in line with the definition of hedonic happiness. [18] refer to hedonic happiness as maximizing people's pleasurable moments through the satisfaction of people's desires. Further discussion on the relationship between attitudes, subjective norms, perceived behavioral controls and purchase intention are as below. Consequently, it will discuss the relationship between purchase intention and community happiness expectation.

## 2.2. Purchase intention

Purchase intention depicts customer judgment whether to purchase or not to purchase a product or a service [19]. The TPB theory emphasized that intention will lead to consumer purchase behavior. Intentions to purchase arise when products provide the features that meet the consumers' need [20]. Eco-friendly smart houses purchase intention in this study defined as "the probability, willingness and desire of a person who is directed to purchase the eco-friendly smart house."

## 2.3. Attitude and purchase intention

Attitude towards intention to purchase affordable eco-friendly smart houses rely on the expectations and beliefs of the person on impacts of environmentally friendly actions. A study in Thailand found that attitude has significant positive impacts on the purchase intention of eco-friendly products, and further concludes that attitude had the highest significant influence on consumer's purchase intention for eco-friendly products [21]. Attitude towards the importance of having eco-friendly smart houses can be developed by educating people about the importance of the environment [22]. Besides, it could be increased when people willing to learn, understand and experience about the green environment and smart technologies.

H1: Individual attitude will have a significant positive influence on intention to purchase affordable eco-friendly smart houses.

## 2.4. Subjective norms and purchase intention

Subjective norm are a function of beliefs whereby the intention to purchase the eco-friendly smart houses will be pressured or influenced by social referents. The social referents consist of people who are immediate or related to the individual for example spouse, colleagues and people who are important in their routine life. [23] found a positive association between subjective norms and intention to choose eco-friendly travel option among 762 tourists in Queenstown, New Zealand.

H2: Subjective norms surrounding a person will have a significant positive influence on intention to purchase affordable eco-friendly smart houses.

## 2.5. Perceived behavioral control (PBC) and purchase intention

PBC reflects the people believe that they can control specific behaviors and it depends on the existence of opportunities and resources such as money, skills, knowledge and time [7]. If an individual feels that he or she has control over the situational factors, he or she may develop the intention to perform the particular behavior [24]. Research by [25] suggests that controllability has a weak positive effect on the intention of New Zealand consumers to purchase energy-saving light bulbs. On the other hand, [26] found that perceived behavioral control is not significant towards purchase intention on green housing in China.

H3: Perceived behavioral control will have a significant positive effect on the intention to purchase affordable eco-friendly smart houses.

## 2.6. Social media and purchase intention

Social media refers as "consumer-generated media that covers a wide variety of new sources of online information, created and used by consumers intent on sharing information with others regarding any topic of interest" [27]. In a study conducted on changes caused by social media in the purchase process for consumer goods, it was found that social media have empowered consumers in facilitating conversations among themselves, openly sharing the values that will help consumers connect [28]. The opportunity provided by social media for customers to connect and interact in rich and complex ways with other customers and non-customers gives them the ability to influence others in their social networks [29].

H4: Social media will have a significant influence on the intention to purchase affordable eco-friendly smart houses.

## 2.7. Purchase intention and happiness expectation

This study suggests that buyers' purchasing intention will lead to an expectation of happiness. A house is not only seen in its physical existence but also a place that provides an image, safety, sense of belonging and create emotional impact. When a buyer intends to purchase a house, they will have an evaluation to achieve a specific goal. In line with [30] who refer happiness as 'people's cognitive and effective evaluation of their lives', this study stands forward that happiness is expected after buyer made a judgment on the intention to purchase a house. Buyer will not have intention to buy if

they do not expect to pursue happiness from it. The bridging buyer intends to purchase an item and happiness expectation from that purchasing is important to unfold the relationship between the two items. A study by [31] found that intention to feel happy will lead to happiness. Purchasing able to increase happiness when it is thoughtful and motivated by non-materialist goals [32]. The previous study found that material purchase provides happiness over time [33]. In another study, perceived environment quality was found to be associated with happiness [34] and from larger perspective, a positive relationship was found between sustainable development and happiness.

H5: Intention to purchase affordable eco-friendly smart houses has a significant effect on community happiness expectation.

### 3. Methodology

This research intends to deliver a better understanding of the factors influencing the intention to purchase affordable eco-friendly smart houses by adopting TPB and extend it to happiness expectation. The target population is Malaysian, aged 25 years and above. According to Gerard Kho who is the online property portal group Malaysia country manager, the biggest pool of property buyer is from age 25 years to 35 years. Notwithstanding that, the Youth Housing program between Bank Simpanan Nasional and government is offered to married youths aging 25 years to 40 years. Moreover, purchasing a house at the age of 25 to 40 foresees that individual will be debt free by their retirement age of 55-65. This is because buying a house will tie people with 30 to 40 years mortgage. However, this study does not limit the maximum age for respondents to participate as the elderly people might be interested in purchasing an eco-friendly house as their second home. Based on Malaysian population by the Department of Statistic Malaysia, there are approximately around 17,374,000 Malaysian aged 25 years and above as of July 2017, and this reflects the target population in Malaysia. Technically, the sample size should be around 384. According to [35] as cited by, the sample size should be more than 30 and less than 500 for most researches. Alternatively, [37] recommended that the sample size should allow for a ratio of 1:4 to 1:10 which represent four respondents to 10 respondents per questions. Based on that computation the sample size for this study ranged from 96 to 240 to accommodate a total of 24 questions in the questionnaire. In this study, 102 respondents participated in the survey.

Self-administered questionnaires were distributed via online applications to potential house buyers in Malaysia. The first section in the questionnaire collected information

on respondents demographic while the second section collected data for attitude, subjective norms, perceived behavioral control, social media influences, intention to purchase and happy expectation. All the questionnaires in Section B are adopted from previous studies using five points Likert scale where one indicates as strongly disagree to 5 indicates as strongly agree.

## 4. Results and Discussions

Data has been analyzed using Statistical Package for the Social Science (SPSS) software. All the constructs meet the reliability test of the rule of thumb of 0.7 and the Cronbach Alpha for all the constructs depicted in **Table 1**.

TABLE 1: Reliability statistics.

Items	Cronbach Alpha
Attitude	0.866
Subjective Norm	0.909
Perceived Behavioural Control	0.873
Social Media	0.948
Purchase Intention	0.908
Community happiness	0.963
<b>Source:</b> Author's work	

Normality test was conducted by using skewness and kurtosis analysis to ensure that the data is usually distributed. All the skewness are within the acceptable range of +3 to -3.

In essence, to examine the correlation between each independent variable and purchase intention, this study performed Pearson Correlation analysis. The outcomes are shown in **Table 2**. It was found that all independence variables (attitude, subjective norm, perceived behavioral control, social media) are positively correlated to purchase intention. Subsequently, the result shows that purchase intention is positively correlated with community happiness at moderate strength of the correlation. **Table 2** also indicates that there is no multicollinearity problem as the relationship between all the independence variable is less than 0.85.

Multiple Linear Regression (MLR) has been performed to achieve the objectives of this study which is to examine the determinants that affect the buyer's intention to purchase the affordable eco-friendly smart houses. **Table 3** reported the Model summary of this study. The value of  $R^2$  is 0.605 indicates that 60.5% of the variation in purchase intention



TABLE 2: Correlations.

Correlation / Significant		AT	SN	PCB	SM	PI	CH
AT	Pearson Correlation	1	.624**	.390**	.611**	.604**	.382**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
SN	Pearson Correlation	.624**	1	.321**	.569**	.569**	.531**
	Sig. (2-tailed)	.000		.001	.000	.000	.000
PCB	Pearson Correlation	.390**	.321**	1	.572**	.574**	.394**
	Sig. (2-tailed)	.000	.001		.000	.000	.000
SM	Pearson Correlation	.611**	.569**	.572**	1	.825**	.599**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
PI	Pearson Correlation	.604**	.569**	.574**	.825**	1	.512**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
CH	Pearson Correlation	.382**	.531**	.394**	.599**	.512**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
 AT=Attitude, SN=Subjective Norms, PBC=Perceived Behavioural Control, SM=Social Media, PI=Purchase Intention, CH=Community Happiness  
**Source:** Author's work

can be determined by attitude, subjective norms, perceived behavioral control and social media.

TABLE 3: Model Summary.

R-square	Adjusted R-square	F-Value	Pr>F
0.605	0.589	37.168	<0.0001

**Source:** Author's work

**Table 4** depicted the outcomes of MLR coefficients whereby attitude (coef=0.341,  $p < 0.05$ ); subjective norms (coef=0.118  $p > 0.05$ ); perceived behavioural control (coef=0.276,  $p < 0.01$ ) and social media (coef=0.244,  $p < 0.01$ ) are positively significant on purchase intention. Consistent with [21]'s findings, the result indicates that attitude has a positive effect on purchase intention. Next, the outcome reveals that perceived behavioral control also has a significant impact on purchase intention of affordable eco-friendly smart houses. This finding is in line with a previous study [25]. However, in a previous study, they do not specifically research eco-friendly smart houses. Instead, they examine energy saving light bulb which is identically referred to smart technology. Besides, the analysis discovers that social media have a significant positive influence on purchase intention. This is supported by [38] in their research on wearable devices. They argued that social media is important in online social contact. In contrast, subjective norms are not significant in purchase intention. The finding also empirically evident by [39]

in their research on purchase intention of smartphones. Correspondingly, the following equation has been developed:

$$PI = \beta + 0.341AT + 0.276PBC + 0.244SM + e$$

Whereby: PI=Purchase intention, AT=Attitude, SN=Subjective Norms, PBC=Perceived Behavioural Control, SM=Social Media, e=error term

TABLE 4: Coefficients.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.114	1.305		.854	.395
	AT	.341	.095	.302	3.580	.001
	SN	.118	.084	.126	1.410	.162
	PBC	.276	.072	.300	3.829	.000
	SM	.244	.060	.295	4.082	.000

a. Dependent Variable: Purchase Intention  
 b. AT=Attitude, SN=Subjective Norms, PBC=Perceived Behavioural Control, SM=Social Media

**Source:** Author's work

To determine whether the purchase intention of affordable eco-friendly smart houses will lead to community happiness expectation, a simple linear regression analysis has been performed. The result of the model summary is shown in **Table 5**. The value of R<sup>2</sup> is 0.681; represents that 68.1% of community happiness expectation is contributed by purchase intention of an affordable eco-friendly smart house.

TABLE 5: Model Summary.

R-square	Adjusted R-square	F-Value	Pr>F
0.681	0.678	213.787	<0.0001

**Source:** Author's work

The findings of coefficient presented in **Table 6** empirically proven that purchase intention of affordable eco-friendly smart house positively influences the community happiness expectation (coef 1.023, p<0.01). The outcome is similar to research conducted by [40] that found an environment in five major cities contribute to happiness. The equation that can be performed from the finding below:

$$CH = \beta + 1.023PI + e$$

Whereby: CH=Expectation of Community Happiness, PI=Purchase intention

TABLE 6: Coefficients.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.164	1.147		-1.015	.313
	PI	1.023	.070	.825	14.621	.000

a. Dependent Variable: Expectation of Community Happiness

Source: Author's work

## 5. Conclusion, Limitation and Recommendation

This study concludes that attitude perceived behavioral control and social media influence the buyers' intention to purchase affordable eco-friendly smart houses. Based on the analysis, it was found that attitude is the highest significant determinant on purchase intention. The reason behind it is potential buyers believe that affordable eco-friendly smart house houses are important in saving the environment and reduce energy consumption. Essentially, this result arguing that potential buyers are concern about having the house featuring eco-friendly and smart technologies concept. Second highest variables that impact purchase intention on affordable eco-friendly smart houses are perceived behavioral control. The potential buyer will have high intention to purchase the affordable eco-friendly smart house when they have controllability and confidence to purchase it especially in term of financial, resources and regulations. The third highest factor that contributes to the intention to purchase affordable eco-friendly smart houses is social media. The new applications technologies through social media make information spread drastically and in an attractive way. It creates an opportunity for people to interact, communicate and nevertheless able to influence people in their purchasing decision. Contradict to the above findings; this study fails to prove that subjective norms influence purchasing intention on affordable eco-friendly smart houses. The possible justification is that people do not rely on their friends or family to persuade them to purchase affordable eco-friendly smart houses. Friends and family might not be aware of the concept of the houses as there is limited information. The finding further unveils that intention to purchase the affordable eco-friendly smart house significantly influence their expectation on happiness. It perceived that people would be happy if they can own a house featuring affordable eco-friendly and smart technologies.

Despite various efforts to produce high-quality research, this study unable to escape from few limitations. First, the respondents in this study are only 102. It is recommended that future researches have larger number of respondents. Second, there are other

variables that can be used to investigate factors influencing buyer intends to purchase eco-friendly smart houses. Future researchers may use other variables such as the cost of affordable houses, process to own the houses and quality of life as factors to influence buyer intends to purchase eco-friendly smart houses.

Finally, the debate on affordable houses is relevant in today's urbanization transition process. Focusing on affordable houses that features eco-friendly and smart technology is a need to resolve the unaffordable houses dilemma and resolve environmental issues. Having such houses will lead to community happiness and indirectly achieving the agenda of sustainable development goals.

## References

- [1] Nandy, M., Kamath, N., & Vaidya., A. (2017, December 21) Slowdown in property sales: High demand for homes but buyers aren't many. *HindustanTimes*. Retrieved from <https://www.hindustantimes.com/india-news/slowdown-in-property-sales-high-demand-for-homes-but-buyers-aren-t-many/story-qN9fUoxngLQpSGJGbyuPcJ.html>
- [2] Thomson, N. & Yang, J. (2015). Developing Affordable and Sustainable Housing through Energy, Transport, and Building Utility Integration. *J. Urban Plann. Dev.* 141 (4) 1-11
- [3] Bredenoord, J. (2016). Sustainable Housing and Building Materials for Low-income Households. *Journal of Architectural Engineering Technology.* 5(1) <http://dx.doi.org/10.4172/2168-9717.1000158>
- [4] Bruen, J., Hadjri, K. & Meding, J. V. (2013). Design Drivers for Affordable and Sustainable Housing in Developing Countries. *Journal of Civil Engineering and Architecture.* 7(10) 1220-1228
- [5] United Nations Human Settlements Programme (UN-HABITAT, 2011), Affordable land and housing in Asia. Available at <https://unhabitat.org/books/affordable-land-and-housing-in-asia-2/>
- [6] Zhou, B., Li, W., Chan, K., Cao, Y., Liu, X. & Wang, X. (2016). Smart home energy management systems: Concept, configuration, and schedule strategies. *Renewable and Sustainable Energy Reviews,* (61) 30-40
- [7] Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes,* 50, 179-211.
- [8] Al-Nahdi, T. S., Nyakwende, E., Banamah, A. m., & Jappie, A. A. (2015). Factors Affecting Purchasing Behavior in Real Estate in Saudi Arabia. *International Journal*

- of Business and Social Science, 6(2), 113–125.
- [9] Phungwong, O. (2015). Factors Influencing the Purchasing Intention of Environmentally-Aware Housing Consumers in Ayutthaya Province, Thailand. UNiversity of South Australia.
- [10] Tan, T.H. (2013) Homeownership schemes in Malaysia for first homebuyers. The First International Conference on Innovation and Sustainability (ICOIS) 2013. 3-4 April 2013, Petaling Jaya
- [11] Ham, M., Jeger, M., & Ivković, A. F. (2015). The role of subjective norms in forming the intention to purchase green food. *Economic Research-Ekonomska Istrazivanja*, 28(1), 738–748. <http://doi.org/10.1080/1331677X.2015.1083875>
- [12] Joshi, Y., & Rahman, Z. (2015). Factors Affecting Green Purchase Behaviour and Future Research Directions. *International Strategic Management Review* (Vol. 3). Holy Spirit University of Kaslik. <http://doi.org/10.1016/j.ism.2015.04.001>
- [13] Wruck, K., & Wu, Y. (2008). Relationships, Corporate Governance, and Performance: Evidence from Private Placements of Common Stock.
- [14] Persaud, A., & Azhar, I. (2012). Innovative mobile marketing via smartphones. *Marketing Intelligence & Planning*, 30(4), 418–443. <http://doi.org/10.1108/02634501211231883>
- [15] Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Manage. Sci.*, 35(8), 982–1003.
- [16] Abu Bakar, M.S., & Bidin, R. (2014). Technology Acceptance and Purchase Intention towards Movie Mobile Advertising among Youth in Malaysia. *Procedia - Social and Behavioral Sciences* 130 (2014) 558 – 567
- [17] Zabidi, A. R., Abdullah, M., & Dammas, A. H. (2018). Investigate the Influence of Social Network Sites on Consumers behaviour: Applying the Technology Acceptance Model. *World Wide Journal of Multidisciplinary Research and Development* 3(8): 38-49
- [18] Kashdan, T.B., Biswas-Diener, R., King, L.A., 2008. Reconsidering happiness: the costs of distinguishing between hedonics and eudaimonia. *J. Posit. Psychol.* 3 (4), 219–233, <http://dx.doi.org/10.1080/17439760802303044>.
- [19] Sidi, S., & Sharipah, N. (2011). Quality affordable housing: A theoretical framework for planning and design of quality housing. *Journal of Techno-Social*,2(1).
- [20] Fournier, S. (1998). Consumers and Their Brands: Developing Relationship Theory in Consumer Research. *Journal of Consumer Research*. 24: 343-373

- [21] Maichum, Parichatnon & Peng (2016). Application of the Extended Theory of Planned behaviour Model to Investigate Purchase Intention of Green Products among Thai Consumers. *Sustainability*, 8, 1077; doi:10.3390/su8101077.
- [22] Cheng, J. C. H., & Monroe, M. C. (2012). Connection to nature: Children's affective attitude toward nature. *Environment and Behavior*, 44(1), 31-49.
- [23] Doran, R., & Larsen, S. (2016). The relative importance of social and personal norms in explaining intentions to choose eco-friendly travel options. *International Journal of Tourism Research*, 18, 159-166.
- [24] Macovei, O. I. (2015). Determinants of Consumers' Pro-Environmental Behavior—Toward an Integrated Model. *Journal of Danubian Studies and Research*, 5(2).
- [25] Yun-Chin, P. H., & Fiona, C. (2015). Surveying data on consumer green purchasing intention: A case in New Zealand. *International Journal of Business and Social Research*, 5(5), 1-14.
- [26] Zhang, L., Chen, L., Wu, Z., Zhang, S. & Song, H. (2018). Investigating young consumers' purchasing intention of green housing in China. *Sustainability* 2018, 10, 1044; doi:10.3390/su10041044
- [27] Kohli, C., Suri, R., & Kapoor, A. (2014). Will social media kill branding. *Business Horizons*, 1171, 1-10. DOI: 10.1016/j.bushor.2014.08.004
- [28] Hajli, M. N. (2014). A study of the impact of social media on consumers. *International Journal of Market Research*, 56(3), 387-404.
- [29] Sashi, C. M. (2012). Customer engagement, buyer-seller relationships, and social media. *Management decision*, 50(2), 253-272.
- [30] Diener E, Diener M, Diener C (1995) Factors predicting the subjective well-being of nations. *J Pers Soc Psychol* 69:851–864
- [31] Ferguson, Y. (2010). The Role of Intentions in the Pursuit of Happiness. PhD Thesis University of Missouri- Columbia
- [32] Fagundes, D. (2017). Buying Happiness: Property, Acquisition, and Subjective Well-Being. *William & Marry Law Review*, 58(6).
- [33] Nicolao, L., Irwin, J. R., & Goodman, J. K. (2009). Happiness for Sale: Do Experiential Purchases Make Consumers Happier than Material Purchases? *Journal of Consumer Research*, 36(August), 188–198. <http://doi.org/10.1086/597049>
- [34] Kyttä, M., Broberg, A., & Haybatollahi, M. (2016). Urban happiness: context-sensitive study of the social sustainability of urban settings. *Environmental and Planning B: Planning and Design*, 43, 34–57. <http://doi.org/10.1177/0265813515600121>

- [35] Roscoe, J. T. (1975) *Fundamental Research Statistics for the Behavioural Sciences*, 2nd edition. New York: Holt Rinehart & Winston.
- [36] Sekaran, U., & Bougie, R. (2013). *Research methods for business: A skill-building approach*.
- [37] Hinkin, T. R., Tracey, J. B., & Enz, C. A. (1997). Scale construction: Developing reliable and valid measurement instruments. Retrieved from Cornell University, School of Hotel Administration site: <http://scholarship.sha.cornell.edu/articles/613>
- [38] Liu, D. & Guo, X. (2017). Can trust and social benefit really help? Empirical examination of purchase intention for wearable devices. *Information Development*, 33 (1), 43-56
- [39] Lau, M. M., Lam, A. Y. C. & Cheung, R. (2016). Examining the Factors Influencing Purchase Intention of Smartphones in Hong Kong. *Contemporary Management Research*, 12 (2), 213-224.
- [40] Hogan, M. J., Leyden, K.M., Conway, R., Goldger, A., Walsh, D., & Plumley, P.E.M. (2016). Happiness and health across the lifespan in five major cities: The impact of place and government performance. *Social Science & Medicine*. 162, 168-176