Program Guide Book

2018 AsRES Annual International Conference

Sponsored by KREAA and AREUEA

July 8th-11th, 2018

Songdo Convensia, Incheon, Korea

AsRES Asian Real Estate Society

KREAA

The American Real Estate and Urban Economics Association

Contents

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Time			Title	Room
7/8/2018 (Sunday)				
13:00 ~	Registration			Oakwood Hotel 1st Floor
13:00 - 15:00	The 1st Women's Network Roundtable: What women must do, can do, will do			37th FL Asteria Room at Oakwood Hotel
15:50 -17:50	AsRES Board Member Meeting			37th FL Asteria Room at Oakwood Hotel
18:00 - 19:30	Welcome Reception			Panoramic 65 at Oakwood Hotel

Time			Title	Room
7/9/2018 (Monday)				
8:00-9:00	Registration			Premier Balloom A&B
9:00-9:30	Opening Ceremony			
9:30-10:20	Keynote Speech		Dr. Edward Glaeser at Harvard University	
10:20-12:00	Plenary Session		The 4th Industrial Revolution and Real Estate	
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	Session 2	A02	Real Estate and Economy	Room : Yellow
	Session 3	A03	House Price Dynamics I	Room : Green
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	Session 5	A05	Information and Housing Markets	Room : Navy Blue
	Session 6	A06	Smart City and Land Development I	Room : Purple
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	Session 9	B09	House Price Indices and Hedonic Regression	Room : Sky Blue
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18:00-20:00			Welcome Dinner	Premier Balloom A&B

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	Session 12	C12	Urban Development and Policy	Room : Orange
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10:20-12:00	SESSION D			
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	D_Panel 2	AsRES Fellows' Forum		Room : Orange
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	Session 19	D19	Green Building	Room : Green
	Session 20	D20	Issues in Housing and Mortgage Markets	Room : Sky Blue
	Session 21	D21	Rental Market	Room : Navy Blue
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12:00-13:20			Lunch	Premier Balloom C
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	E_Panel 1	AsRES Sponsor Session by Korea Association of Property Appraisers		Room : Red
	E_AREUEA	AREUEA Sponsored session		Room : Orange
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	Session 24	E24	Mortgage Finance I	Room : Green
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	F_Panel_1	AsRES Panel Session 'Challenges and Opportunities on International Real Estate Investment (moderated by Dr. Kwanyoung Kim)		Room : Red
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	Session 30	F30	Sustainability and Commercial Real Estate	Room : Sky Blue
	Session 31	F31	Commercial Real Estate II	Room : Navy Blue
	Session 32	F32	Price Discovery and Imperfact Information	Room : Purple
19:00 - 21:00	Gala Dinner			Paradise City Hotel

Time			Title	Room
7/11/2018 (Wednesday)				
7:00-8:00	AsRES Board Meeting			37th FL Asteria Room at Oakwood Hotel
8:00-10:00	SESSION G			
	Session 33	G33	Issues in Property Valuation	Room : Red
	Session 34	G34	Housing Price	Room : Orange
	Session 35	G35	Heterogeneity and Cycles in Real Estate Data	Room : Yellow
	Session 36	G36	Real Estate Markets	Room : Green
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	Session 38	G38	Urban Development and Land Prices II	Room : Navy Blue
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10:20-12:00	SESSION H			
	Session 40	H40	Price Volatility and Real Estate Markets II	Room : Red
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	Session 43	H43	Smart City and Land Development II	Room : Green

Time			Title	Role	Name	Email	Nationality	Affiliation	Room
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12:00-13:20			Lunch						Premier Balloom C
13:20-15:20	SESSION A								
	A Panel 1	AsRES Sponsor Session by Housing and Urban Guarantee C		Moderator	Dr. Gong-soo Lim	gscorps@khug.or.kr	South Korea	Korea Housing&Urban Guarantee Corparati	Room : Red
	Session 1	A01	Urban Amenities	Chair	Dr. Sanghoon Lee	sanghoon.lee@sauder.ubc.ca	Canada	The University of British Columbia	Room : Orange
	Session 2	A02	Real Estate and Economy	Chair	Dr. Robert H. Edelstein	edelstei@haas.berkeley.edu	United States	University of California Berkeley	Room : Yellow
	Session 3	A03	House Price Dynamics I	Chair	Dr. Martin Hoesli	martin.hoesli@unige.ch	Switzerland	University of Geneva	Room : Green
	Session 4	A04	REIT Performance	Chair	Dr. James D. Shilling	shilling@depaul.edu	United States	DePaul University	Room : Sky Blue
	Session 5	A05	Information and Housing Markets	Chair	Dr. Tien Foo Sing	rststf@nus.edu.sg	Singapore	National University of Singapore	Room : Navy Blue
	Session 6	A06	Smart City and Land Development I	Chair	Dr. Robert Van Order	rvo@gwu.edu	USA	George Washington Univer	Room : Purple
15:20-15:40	Coffee Break								
15:40-17:40	SESSION B								
	B panel 1	IRES Panel on Infrastructure Performance and Challenges		Moderator	Dr. Martin Hoesli	martin.hoesli@unige.ch	Switzerland	University of Geneva	Room : Red
	B panel 1	AsRES Panel Session : The 4th Industrial Revolution & Real Estate : A persp		Moderator	Dr. Hyo-Gon Moon	soffmoon@lh.or.kr	South Korea	Land & Housing Institute	Room : Orange
	Session 7	B07	Urban Development and Land Prices	Chair	Dr. Jaeyoung Son	jyson@konkuk.ac.kr	South Korea	Konkuk University	Room : Yellow
	Session 8	B08	Housing Supply-Demand Analysis	Chair	Dr. Kwan Ok Lee	rstleeko@nus.edu.sg	Singapore	National University of Singapore	Room : Green
	Session 9	B09	House Price Indices and Hedonic Regression	Chair	Dr. Jin Man Lee	jlee141@depaul.edu	United States	DePaul University	Room : Sky Blue
	Session 10	B10	Private Equity Real Estate and REITs	Chair	Dr. Kim Hiang Liow	rstlkh@nus.edu.sg	Singapore	National University of Singapore	Room : Navy Blue
	Session 11	B11	Real Estate and Trading	Chair	Dr. K.W. Chau	hrrbckw@hku.hk	Hong Kong	The University of Hong Kong	Room : Purple
18:00-20:00			Welcome Dinner						Premier Balloom A&B

Time			Title	Role	Name	Email	Nationality	Affiliation	Room
7/10/2018 (Tuesday)									
8:00-10:00	Session C								
	C Panel 1	Panel Session : Future research opportunities for Asian real		Moderator	Dr. Jeongwon Son	j.son@ucl.ac.uk	United States	University College London	Room : Red
	Session 12	C12	Urban Development and Policy	Chair	Dr. Xiaohui Bao	hxb20@cam.ac.uk	United Kingdom	University of Cambridge	Room : Orange
	Session 13	C13	Affordable Housing	Chair	Dr. Chee Wei Cheah	cheahcw@hotmail.com	Malaysia	Monash University	Room : Yellow
	Session 14	C14	Urban Economics and Real Estate Markets	Chair	Dr. Yen-Jong Chen	yj_chen@mail.ncku.edu.tw	Taiwan	National Cheng-Kung University	Room : Green
	Session 15	C15	REITs and Listed Real Estate Companies	Chair	Dr. Eli Beracha	eberacha@fiu.edu	United States	Florida International University	Room : Sky Blue
	Session 16	C16	Topics in Housing Policy I	Chair	Dr. Karen Gibler	kgibler@gsu.edu	United States	Georgia State University	Room : Navy Blue
	Session 17	C17	International Real Estate I	Chair	Dr. Jarjisu Sa-Aadu	jsa-aadu@uiowa.edu	United States	University of Iowa	Room : Purple
10:00-10:20	Coffee Break								
10:20-12:00	SESSION D								
	D Panel 1	AsRES Panel Session 'Tenure, Publication and Careers for		Moderator	Dr. John Glascock	jglascock@business.uconn.edu	United States	The University of Connecticut	Room : Red
	D Panel 2	AsRES 'Fellows' Forum (moderated by Dr.Kyungwhan Kim		Moderator	Dr. Kyung-Hwan Kim	dennykim@gmail.com	South Korea	Sogang University	Room : Orange
	Session 18	D18	Urban Development and Land Prices I	Chair	Dr. Siqi Zheng	sqzheng@mit.edu	United States	MIT China Future City Lab and Center for I	Room : Yellow
	Session 19	D19	Green Building	Chair	Dr. Shi-Ming Yu	rstyusm@nus.edu.sg	Singapore	National University of Singapore	Room : Green
	Session 20	D20	Issues in Housing and Mortgage Markets	Chair	Dr. Min Hwang	min@gwu.edu	United States	George Washington University	Room : Sky Blue
	Session 21	D21	Rental Market	Chair	Dr. Hyung Min Kim	hyungmin.kim@unimelb.edu.au	Australia	The University of Melbourne	Room : Navy Blue
	Session 22	D22	Topics in Housing Policy II	Chair	Dr. Ming-Chi Chen	mcmchen@nccu.edu.tw	Taiwan	National Chengchi University	Room : Purple
12:00-13:20			Lunch						Premier Balloom C
13:20-15:20	SESSION E								
	E Panel 1	AsRES Sponsor Session by Korea Association of Property A		Moderator	Dr. Taewook Ro	otu@kangnam.ac.kr	South Korea	Kangnam University	Room : Red
	E AREUEA	AREUEA Sponsored session		Chair	Dr. Tsur Somerville	tsur.somerville@sauder.ubc.ca	Canada	The University of British Columbia	Room : Orange
	Session 23	E23	Household Housing Choices I	Chair	Dr. Hui-Ching Hsieh	sana@mail.ncku.edu.tw	Taiwan	National Cheng Kung University	Room : Yellow
	Session 24	E24	Mortgage Finance I	Chair	Dr.Tyler Yang	tyler.yang@ifegroup.com	United States	Integrated Financial Engineering Grop	Room : Green
	Session 25	E25	Taxation and Real Estate Valuation	Chair	Dr. Seunghan Ro	shro@konkuk.ac.kr	South Korea	Konkuk University	Room : Sky Blue
	Session 26	E26	Commercial Real Estate I	Chair	Dr. Hyunseok Lee	hsl3@konkuk.ac.kr	South Korea	Konkuk University	Room : Navy
	Session 27	E27	Price Volatility and Real Estate Markets I	Chair	Dr. Weida Kuang	weidakuang@gmail.com	China	Renmin University of China	Room : Purple
15:20-15:40	Coffee Break								
15:40-17:40	SESSION F								
	F Panel 1	AsRES Panel Session 'Challenges and Opportunities on Int		Moderator	Dr. Kwanyoung Kim	suneekim@iramc.com	South Korea	Hanyang University	Room : Red
	F Panel 2	AsRES Panel Session 'Start-up Business in Real Estate'		Moderator	Dr. Sangyoung Lee	sylee@mjc.ac.kr	South Korea	Myongji University	Room : Orange
	Session 28	F28	Household Housing Choice II	Chair	Dr. Qiulin Ke	q.ke@ucl.ac.uk	United Kingdom	University College London	Room : Yellow
	Session 29	F29	Issues in Homeownership and House Prices	Chair	Dr.Rose Neng Lai	roselai@umac.mo	HongKong	University of Macau	Room : Green
	Session 30	F30	Sustainability and Commercial Real Estate	Chair	Dr. Brian A. Ciochetti	Tony.Ciochetti@utsa.edu	United States	University of Texas at San Antonio	Room : Sky Blue
	Session 31	F31	Commercial Real Estate II	Chair	Dr. Abraham Park	abraham.park@pepperdine.edu	United States	Pepperdine University	Room : Navy
	Session 32	F32	Price Discovery and Imperfact Information	Chair	Dr. Seungwoo Shin	ss244shin@yahoo.com	South Korea	konkuk univ	Room : Purple
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	Session 33	G33	Issues in Property Valuation	Chair	Dr. Sae Woon Park	assw@changwon.ac.kr	South Korea	Changwon National University	Room : Red
	Session 34	G34	Housing Price	Chair	Dr. Chin-Oh Chang	jachang@nccu.edu.tw	Taiwan	National Chengchi University	Room : Orange
	Session 35	G35	Heterogeneity and Cycles in Real Estate Data	Chair	Dr. Edward Tang	edward.c.h.tang@gmail.com	Hong Kong	Hong Kong Shue Yan University	Room : Yellow
	Session 36	G36	Real Estate Markets	Chair	Dr. Jin Man Lee	jlee141@depaul.edu	United States	DePaul University	Room : Green
	Session 37	G37	Real Estate Data and Rent	Chair	Dr. Changha Jin	cjin@hanyang.ac.kr	South Korea	Hanyang University	Room : Sky Blue
	Session 38	G38	Urban Development and Land Prices II	Chair	Dr. Seung-Dong You	peteryou@smu.ac.kr	South Korea	Sangmyeong Univ.	Room : Navy
	Session 39	G39	Real Estate Firms	Chair	Dr. Jinyoo kim	jinewk@gmail.com	South Korea	Kyonggi University	Room : Purple
10:00-10:20	Coffee Break								
10:20-12:00	SESSION H								
	Session 40	H40	Price Volatility and Real Estate Markets II	Chair	Dr. Kang Mo Koo	kang.koo@deakin.edu.au	Australia	Deakin University	Room : Red
	Session 41	H41	Environmental and Real Estate Prices	Chair	Dr. Peddy PiYing Lai	piying@mail.nptw.edu.tw	Taiwan	National Pingtung University	Room : Orange
	Session 42	H42	Mortgage Finance II	Chair	Dr. Hyun-Soo Choi	hschoi@smu.edu.sg	Singapore	Singapore Management University	Room : Yellow
	Session 43	H43	Smart City and Land Development II	Chair	Dr. Seounghan Ro	shro@konkuk.ac.kr	South Korea	Konkuk University	Room : Green
	Session 44	H44	Urban Development and Land Prices	Chair	Dr. Jun-Hyung Kim	junhgkim@gmail.com	South Korea	Myongji University	Room : Sky Blue

The Family Life Cycle Difference in Dual Motive Property Decision

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ABSTRACT

The purpose of this research is to determine the difference between rational factors and irrational factors underlying dual motives in property decision based on a family life-cycle. The independent variables used in this study are rational factors and irrational factor. The variables used to measure rational factors are physical, location, environment, and financial. Correspondingly, the irrational factors are psychology, emotion, intuition and socialisation variables. The dependent used in this study is dual motives, hence consumption and investment motives. The two data samples studied are younger couple and midlife household. The method of analysis used is a non-parametric test, which compares the differences between the two independent groups. As a result, this research bears three findings: the first implies that physical, environment, intuition, and socialisation significantly differentiate dual motives based on family life-cycle. Second, the study suggests that physical and socialisation significantly separate dual motives by younger couple. The last finding implies that no factors significantly distinguish dual motives in midlife household.

Keyword: Dual Motives, Family Life-Cycle, Rational and Irrational Factor

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1. INTRODUCTION

The process of owning a residential house creates two motives: consumption and investment motives. Both motives together are also called as *dual motives* (Arrondel, Badenes, & Spadaro, 2010). The foundation of consumption decision is named as a financial aspect, while the decision to invest is based on the property aspect and the value of the property (Haavio & Kauppi, 2011). In making such decision, though it has been logically and carefully decided, there are psychological factors that bias the individual (Kudryavstev, Cohen, & Hon-Snir, 2012). A study by Suwitro and Njo (2015) shows how rational and irrational factors influence a consumer's judgment when deciding to buy a property. Rational factor includes the physical condition of the property, a strategic location of the property, a comfortable neighbourhood of the property, and finally the financial health of the buyer. On the other hand, irrational factor includes the buyer's behaviour and way of thinking when making consideration to buying, the buyer's emotion that influences his desire and interest, the buyer's intuition, and the involvement of several other people in making the decision. The research shows how *psychology, emotion, and intuition* significantly differs the decision of consumption and investment, proving that there are irrational factors that influence the decision.

The property market has a *weak-form efficient*, where price change in the market does not reflect complete information (Fama, 1970), making the property market inefficient with such bias. Fundamental variables are unable to completely explain the price change considering the existence of irrational factors that affect the decision of consumption and investment (Case & Shiller, 1990). Salzman & Zwinkels (2017) stated that understanding the property market's behaviour could be beneficial in reducing the uncertain price change, while also explaining the reason for property purchase. Also, family plays a role in the property market.

The role of the family in the market would be able to show how the family's life cycle corresponds with their need of residence. *Family life-cycle* is categorised into the family's age and the dependency of the child or children. Age is divided into *younger, midlife,* and *older,* while the dependency of the child or children is divided into *couple*, *parents,* and *household (*Lee, Park, & Montalto, 2000).

Family life-cycle profoundly influences the consumer and investor's need and preference, each being different depending on each stage (Preston & Taylor, 1981). *Younger couple* family type is a family of young age with no children. Their need would be different with the *midlife household* - a family with older age and having children who are no longer dependent on their parents (Lee *et al*., 2000). Considering its young age and their possessing no residence, *younger* family type has a higher probability of consumption motive. In comparison, *midlife* family type is at the stage where they already accumulated a more significant amount of riches, increasing their urge to invest in a residence as a preparation towards retirement. Lastly, as for the *older* family type, their need is no longer on investing, but to enjoy their retirement and to enter the stage distributing their riches (Dornbusch & Fisher, 1994). This condition shows that the *dual motives* in *older family life-cycle* are unable to show any difference.

80% - 90% of the *younger couple* who buys a house for a residence has a higher probability of consumption (Speare & Goldscheider, 1987). However, *younger couple* oughts to use their fundings more carefully, since they have a more limited fund and they are obligated to manage their fund to support their life. Equally important, the *younger couple* has to consider the need of their future children. A rational consideration is to be conducted to make that decision so that the family's preference is on a cheaper priced property. The purchased

residence would create a *capital gain* as a stepping stone towards moving into a better housing (Haavio & Kauppi, 2011). Furthermore, *younger couple* owns the chance to buy a property for investment, granted that their need for housing is already fulfilled.

In the *family cycle* of a *midlife household* (a family that possess a residential house), the purpose of purchasing a property tends to lean to the reason of investment rather than consumption. Their extra funding is allocated as an investment, with the purpose of developing and maintaining their wealth (Dasso & Ring, 1989). Extra funding enables a family to make an irrational decision, due to the psychological bias that is involved in the decision-making process. This research aims to test the difference between rational and irrational factors in *younger couple* and *midlife household* in making the decision of property consumption as well as investment. Further research will be done on the different factors in both *younger couple* and *midlife household.*

2. LITERATURE REVIEW

2.1 Dual Motives

The *dual motives* theory explains what underlies the decision of property purchase which is based upon the purpose of consumption and investment. Property purchase is aimed to fulfil one's need, yet the rest would be used for investment (Arrondel et al., 2010). The decision of consumption and investment could be observed from the initial goal of purchase, and not from the number of property that is purchased. Consumption signifies that the acquisition of property is to be used as a personal housing. The first property purchase aims to fulfil one's need, though the buyer might also consider investing (Malpezzi & Watcher, 2012). On the other hand, investment is an act of spending to secure profit in the future. Although the investor would receive a profit, the investor would also bear the risk of uncertainty – for a

higher risk would be compensated by a higher *return*. Property investor is responsible for taking care of the property and bearing the risk that might occur. In return, profit will be received from the rent money and *capital gain* (Dasso & Ring, 1989)

2.2 Behavioural Real Estate

Behavioural Real Estate is the application of *behavioural economics* in the field of property. *Behavioural economics* itself is the application of economic science in more realistic terms regarding preference, rationality, and decision making (Gibb, 2012). It combines economic science with social science, especially in psychology in the property area (Salman & Zwinkels, 2017). The research regarding *behavioural real estate* occurred with the *weak form efficient* property market condition. In this condition, information and fundamental variable are unable to define the price market accurately (Case & Shiller, 1990). Shiller (2005) suggests that investor applies *Rational Optimizing* (considering the profit rationally) and *Utility Maximization* (allocating the funding rationally for a maximum profit). *Utility Maximization* uses the assumption of *Efficient Market Hypothesis* (EMH), in which information can define the price entirely. However, EMH conflicts with the *weak form efficient* property market, which means that the amount would not be accurately defined. Fundamental inaccuracy in deciding property price could be explained through *a behavioural real estate. Behavioural* approach is divided into micro and macro approach. While *macro-oriented* approach is related to the behaviour that affects one's transaction with the market, *micro-oriented* approach refers to one's behaviour and their motivation (Ratchatakulpat, Miller, dan Marchant, 2009).

One of the important aspects of a buyer's behaviour is their making a decision such as purchasing a property. Koklic & Vida (2009) stated that the decision of purchasing is affected

by both rational and irrational factor, because of the existence of two kinds of needs that each possess: *utilitarian* and *hedonic* needs. *Utilitarian* is when a consumer is pondering objectively upon a product based on its value and utility. On the other hand, *hedonic* is when the consumers satisfy their needs subjectively and for the sake of *Pleasure* (Gibler & Nelson, 1998). *Utilitarian* needs are influenced by rational factor, and *hedonic* needs are affected by irrational factor. Furthermore, a rational decision is a form of a *reflective mind* that consider things for a long-term, analytically, and with effort (Stanovich, 2010). Rational thinking is different for each, for each has a different preference for a property's feature that he or she wishes for a property to have. Such thought would influence their decision on a purchase. The features include the physical condition, the environment, the location, the financial condition, and the law applied – these are the rational factors. However, for individuals who use more of their feelings, their decision making is more likely to be influenced with irrational factors (Kudryavstev *et al*., 2012) such as psychological state, emotion, intuition, and socialisation (Suwitro & Njo, 2015) of the individual.

2.3 Rational Factor

The physical quality of property includes *immobility*, *indestructibility*, and *nonhomogeneity* (Dasso & Ring, 1989). Ratchatakulpat et al. (2009) described that physical property is the size of the property, number of bedrooms, presence of a garage, interior design, quality of construction material, the layout of the property, architectural style, convenience in property maintenance, number of bathrooms, and presence of a garden. Location becomes the most crucial aspect because accessibility is more important than luxury and property quality (Lan, 2011). Location shows the placement of a place in relation to other places (Fanning, Grissom, & Pearson, 1994). The indicators include an ease of access to the property, presence of other surrounding property that could reduce the property’s value, the road with in front of the

property, the density of the traffic around the property, distance to school, work, shopping avenues or mall (Suwitro & Njo, 2015), distance to a market, and distance to a hospital (Fernandez, Oliveira & Hochheim, 2001). The neighbourhood might create a favourable exposure or in contrast, an unfavourable one. The indicator used is the condition of the neighbourhood, the welfare of that neighbourhood, the safety, the quality of the school nearby the property, the presence of green space around the property (Suwitro & Njo, 2015), and the cleanliness of the neighbourhood (Saw & Tan, 2014). Moreover, finance is the main factor because purchasing a property requires a huge amount of fund that confines for a long-term (Koklic & Vida, 2009). Reed & Mills (2007) proves that financial factors influenced 305 of the decision made. Indicators of a financial factor include the price of the property, the amount of loan interest - both during the time of loan or in the future, the maximum amount of retrievable loan, the maximum amount of monthly loan, the payment period, and the length of time the property is offered (Ratchatakulpat et al., 2009; Suwitro & Njo, 2015).

2.4 Irrational Factor

Psychology is the key to explain what causes a bias in human behaviour (Kumar & Goyal, 2015). Thy psychological state of a consumer and investor such as overconfidence, *conservatism, familiarity heuristic, money illusion, loss aversion* and *herd behaviour* affects the decision-making process (Beracha & Skiba, 2014; Suwitro & Njo, 2015). A consumer or investor who is over-confident is assured that their profit would be bigger than the loss. When an investor or consumer has a lot of experience in property, they would have less overconfidence. When an investor or a consumer is conserved or has a slow reaction to information, this would be considered as conservatism or having slow reaction to information. This adjustment would slowly affect the property market, and therefore the buyer who realizes this would be able to take this opportunity before the property price

changes (Beracha & Skiba, 2014). *Familiarity Heuristic* is related to the pre-acquired information, which will be used as a basis for decision making. When deciding to buy, the consumer and investor would choose to buy a product that they are familiar with rather than an unfamiliar yet a profitable product (Kumar & Goyal, 2015; Beracha & Skiba, 2014). Also, *Herd Behaviour* is a behaviour that comes to light under the influence of other people. *Herd behaviour* gives a social pressure and could cause a buyer to not decide on his own (Salzman & Zwinkels, 2017). A consumer or investor is most likely to buy a property that is wanted by many people, causing the price to rocket. However, the property might not be as popular in the future (Haavio & Kauppi, 2011). *Money Illusion* is defined as a buyer's failure to evaluate an alternative because of a property's value (Salzman & Zwinkels, 2017). An investor uses the wrong reference to decide a property's value, such as the price difference that is not applied to inflation. An excellent price difference could cause an investor or consumer to predict the price increase, although it may not happen in the future. *Loss aversion* is the act of an investor or consumer not willing to attain a loss. Therefore they try to hold onto the losing property (Beracha & Skiba, 2014). Morrison and Clark (2016) stated that losing a house which has a significant meaning and clinging memory is defined as a loss. It is very natural to avoid loss. However, being too excessive could cause someone to become biased in making the decision (Salzman & Zwinkels, 2017). The loss obtained is not only materialistically, but also psychologically.

Emotion is defined as a social attachment with one's residence, developed through a feeling of security, a deep meaning, and a feeling of identity (Salzman & Zwinkels, 2017). Each has a different level of emotion depending on their feeling towards the selected property. Also, an *intuitive mind* is described as reasoning done through intuition, without intrusion. *Reflective mind,* on the other hand, is reasoning done analytically (Stanovich, 2010). Salzman &

Zwinkels (2017) define a feeling that surfaces immediately when looking at a house, then the house is chosen at first sight, as an *intuitive mind* – since the decision is spontaneous and intuitively done. Finally, socialisation is defined as making a decision that is influenced by the people around someone. Social pressure could cause someone to choose based on the majority. This decision is usually influenced by a *reference group* such as the broker, the developer, one's friend, and family (Suwitro & Njo, 2015).

2.5 Family Life-Cycle

Family Life-cycle is the stages of a family from the beginning of marriage until retirement. Lee et al. (2002) divide *family life-cycle* according to their age, and Seo & Lim (1984) divides them according to the children's dependency. The merging of both divisions would be defined as the following:

Table 1. Stages of *Family Life*-Cycle

Stage	Description
Younger Singles	Family age of < 45 years old, unmarried and having no child
Younger Couples	Family age of < 45 years old, married and having no child
Younger Parents	Family age of < 45 years old, married with a child or children
Midlife Parents	Family age of 45 – 64 years old, married with a dependent child or children
Midlife Household (pre-retired or retired)	Family age of 45 – 64 years old, married with an independent child or children
Older Parents	Family age of > 64 years old, married with a dependent child or children
Older Household (pre-retired or retired)	Family age of > 64 years old, married with an independent child or children

Source: Lee et al. (2000)

According to the *Family Life-Cycle* division above, this research would see if there is any difference between rational factor and irrational factor in making dual motives decision, focusing on *younger couples* and *midlife household.* The stage of *younger couples* is the family that is recently married, mostly not having their own house yet. Therefore, any

decision to purchase of property is for consumption (Lee *et al.,* 2000). Nevertheless, the purchase may also be motivated with the idea of investment, when the couple has already owned a residential house. The decision of consumption is based upon the utility of the property, and the decision of investment is based upon the property's value. Some factors that are considered rationally is the physical condition of the property, the location of the property, the property's neighbourhood, and one's financial condition. Furthermore, psychological factors also play a part in the process of making the decision and therefore can cause the decision to be biased.

For *younger couple*, the physical factor of the property is given more attention since a house is to be lived in for a long time. The family would also consider a house that could be improved or upgraded in the future for the sake of the children. First, the *younger couple* would find a property where it is more comfortable and nearer to commute to work, and also closer to public places such as the hospital, malls, and the market. A safe and clean neighbourhood is also a priority since the family is preparing the house to be ideal for raising a child (Lan, 2011). Investment motivation, however, is focused mainly on their wish to receive a capital gain. Therefore, the family would look for a property that is easier to be resold with the added value of the property. Lastly, financial factor becomes the most considered aspect by a *younger couple*, because their pay raise may not compensate the inflation of the house price (Fauizi, 2017, para.15). A limited budget drives a younger couple to make a decision carefully, because buying an overpriced property would cut down their fund for other needs (Lee *et al*., 2000; Koklic & Vida, 2009).

Though the decision is made rationally, *younger couples* could not avoid the psychological factors. Psychological factors that differentiate dual motive is *overconfidence* and *money*

illusion, emotional bond, intuition, and socialisation in making the decision. There is an emotional bond between an individual and a neighbourhood (Salzman dan Zwinkels, 2017), for the couple would wish that a neighbourhood becomes a conducive, safe, and comfortable place for their child to grow up in. Intuition, however, does not become their primary consideration in making the decision (Lee *et al.,* 2000). Socialisation factor in dual motive shows a significant difference. In a *younger couple*, they are most likely to look for information from a *reference group* because of their lack of experience (Rani, 2014). *Reference group* such as family or friends is the most trusted sources for consumers, and investors mostly trust the broker or developer.

On the other hand, *a midlife household* stage has more funding since their expense had started to reduce. Its need for housing has already been fulfilled, and its loans for the house or vehicle has already been paid off (Lee *et al.,* 2000). The excess fund owned drives the *midlife household* to irrationally makes the decision and not rationally. The motive of consumption in a *midlife household* is more unlikely, though might be possible if the new property could give the family better welfare.

The property physical need ideal for a *midlife household* is influenced by the size of the property and the ease of looking after it. Since their stage is older, their physical activity is limited, including to look after a property (Spanier, 1979). A bigger property is more unlikely to be selected because taking care of it would be troublesome. Unlike when it comes to the need for investment, the quality of the building material has to be strong enough not to be often renovated, because the primary purpose is for housing. The main consideration of the location is for the property to be near a market and a hospital. The neighbourhood is considered to having a green and clean environment, to have a better quality of life (Saw &

Tan, 2014; Lan, 2011). Price is also an important factor, though with extra funding the family would not need to rely on making a house credit (Lee *et al.*, 2000).

Psychological factor also plays a part in the dual motives decision making in a *midlife household.* Behaviours that influence the decision-making process are *loss aversion, overconfidence,* and *herd behaviour.* Loss aversion is the fear of losing a house with a lot of memories in it (Morrison & Clark, 2016). *Overconfidence* and *herd behaviour* appears when buying a popular property and being optimistic that it would be profitable in the future. The problem is, however, that the higher the property value is, the higher the price. Also, the property popular now might not be popular in the future. Therefore, the capital gain will be harder to attain (Saw & Tan, 2014; Lee *et al*., 2000; Haavio & Kauppi, 2011). Emotional factor that involves the feeling of security and comfort *midlife household* lives in a house (Salzman & Zwinkels, 2017). Intuition also plays as much role in making the decision, mainly based on the experience had before. Similarly, socialisation factor such as information from a *reference group,* especially closer and trustworthy family members, drives the household in making a decision (Rani, 2014). Investor, on the other hand, receive socialisation through the broker and developer. The statements above creates these hypotheses:

H_1 : There is a difference between rational and irrational factor in the dual motive property decision making, based on the *family life-cycle.*

H_2 : There is a difference between rational and irrational factor in the dual motive property decision making for the *Younger Couple.*

H_3 : There is a difference between rational and irrational factor in the dual motive property decision making for the *Midlife Household.*

3. RESEARCH METHODOLOGY

Comparative research is applied to compare one variable or more toward two or more different samples; In this case, this research would compare the difference between rational and irrational factor toward consumption and investment decision of the group *younger couple* and *midlife household.* The population of this research is individuals residing in Surabaya, selected with *purposive sampling* with criteria as the following:

a. *Younger couple* is married couples that has not yet any children.
b. *Midlife household* age between 45-64, are married and having children that are no longer dependent on their parents and no longer lives with the parents.

Table 2. Empirical Indicator of the Research Variables

Variable	Empirical Indicator
Dual Motives	1 = Investment; 0 = Consumption
Rational Factor	Physical, location, neighbourhood, and financial condition
Irrational Factor	Psychological (*Overconfidence, Conservatism, Familiarity Heuristic, Herd Behaviour, Money Illusion,* dan *Loss Aversion);* Emotion; Intuition; Socialisation

Before starting the difference test, validity test, reliability test, normality test, and homogeneity test is put into practice to prove if the data is appropriate. After fulfilling the tests above, the difference is tested through the T Test or Mann-Whitney U test.

4. ANALYSIS AND DISCUSSION

Table 3 describes the background of the respondents. The table includes the monthly income, the housing status, and the number of property ever bought. This purpose is to fit the purpose of explaining the condition of property ownership of each respondent. The *younger couple* group is dominated with the goal of consumption, whil*e the purpose o*f investment dominates midlife household. The statement agrees with the research done by Speare and Goldscheider

(1987) that states how *younger couple* is more likely aiming for consumption because of their need of a house, and *midlife household* aims for investment. The average income of *younger couple* is lower than *midlife household*. 56% of the *younger couple* range between Rp. 10 – 25 million, while 66% of the *midlife household* range between Rp. 25 – 50 million. As for the housing status, 68% of the *younger couple* owns a house, and the rest either rents or stay in the parents' or relative's house. *Younger couple* that does not own a house still aims for investment, because their need for housing is fulfilled through the parent's house or renting.

Table 3. Respondent Demography

Respondent Criteria	*Younger Couple*		*Midlife Household*	
	Consumption	Investment	Consumption	Investment
Total	34	25	15	26
Monthly income				
≤ 10 million	5	1	1	3
> 10 million – 25 million	22	11	4	5
> 25 million – 50 million	5	10	10	17
> 50 million	2	3	0	1
Housing status				
Parents/Relative's House	6	3	0	0
Rent	8	2	0	0
Personal	20	20	15	26
Number of property bought				
None	13	5	0	0
1 property	20	15	13	10
2 property	0	3	0	13
3 property	1	2	2	3

Before testing the hypotheses, validity test and reliability test must be done. The result of validity test is considered as valid if the r-value > r-table (0.195). The reliability test would show that the variables of physical, location, financial condition and socialisation to be reliable if it has the value of *Cronbach's Alpha > 0.60.* Lastly, the neighbourhood, emotion, and psychology are proved feasible and dependable for the next test if the *Cronbach's Alpha* range between > 0.40 – 0.60. The result of the normality test shows that the data is not

normally distributed, and therefore *Mann-Whitney U Test* is used to test the difference (Table 4).

Table 4. Differentiating Variable in the stage of *Family Life-Cycle*

Variable	*All Family*	*Younger Couple*	*Midlife Household*
Physical	0,003 **	0,001 **	0,825
Location	0,068	0,374	0,847
Neighbourhood	0,006 **	0,051	0,139
Financial	0,547	0,094	0,739
Psychological	0,174	0,613	0,208
Emotion	0,627	0,937	0,076
Intuition	0,012 **	0,306	0,278
Socialisation	0,009 **	0,030 **	0,272

Significant ** $p<0.05$

The respondents, according to each of their motives, show different rational factors when deciding to purchase a property. The factors includes physical and neighbourhood variables, as well as irrational factors such as intuition and socialisation. The grouping in *younger couple* shows that rational factor of physical and irrational factor of socialisation differentiate the decision between consumption and investment. In midlife household, however, there is no difference between rational factor and irrational factor when deciding to purchase with each of the respondent's motive.

The difference occurred in rational and irrational factor shows that the investor group has a higher mean value than they buyer group. The investor has a more consideration when deciding to buy a property concerning rational factor. Nevertheless, irrational factor also plays a role in influencing the psychological response of the respondents.

Table 5. Differentiating Indicators in *Dual Motives* of *Family Life-Cycle*

Indicators	*All Family*		*Younger Couple*	
	Consumption Mean	Investment Mean	Consumption Mean	Investment Mean
Rational Factor				
P3 (Having a garage)	2,96	3,18	3,00	3,32
P4 (Interior design of the property)	3,18	3,41	3,12	3,52
P5 (Construction material)	4,02	4,25	4,08	4,12
P6 (Layout of the property)	3,86	4,06	3,92	4,16
P7 (Architectural style)	3,31	3,63	3,20	3,64
E2 (The welfare of the area around the property)	4,35	4,51		
E3 (The view from the property)	3,04	3,39		
E4 (Security of the property's area)	4,73	4,96		
E6 (Presence of a green area near the property)	3,51	3,71		
E7 (Cleanliness of the neighbourhood)	4,65	4,73		
Irrational Factor				
I1 (At first sight, I believe that the property is the right one for me)	2,82	3,18		
I2 (I believe in my personal opinion when buying the property)	3,45	3,67		
I3 (I believe the property would give me a significant profit)	3,31	3,61		
I4 (I believe in my intuition based on my experience)	3,67	3,75		
S1 (Before purchasing, I discussed with my agent or broker)	2,78	3,10	2,68	3,16
S2 (Before purchasing, I discussed with the developer)	2,98	3,14	3,04	3,16
S3 (Before purchasing, I discussed it with a friend)	3,22	3,63	3,24	3,64
S4 (Before purchasing, I discussed with my family)	3,92	4,18	3,80	4,20

4.1 Discussion

The difference between rational and irrational factor based on the dual motive (consumption and investment) of the property in Surabaya is the physical and neighbourhood factor (rational) and intuition and socialisation factor (irrational). When a family decides to buy for consumption purpose, their primary consideration would be on the physical of the property, as well as the neighbourhood around it. The account is then adjusted with their capability of purchasing. In contrast, a family with the purpose of investment, though their main consideration is on the physical condition and neighbourhood of the property, will consider mainly on whether the property gives a good *capital gain* or extra revenue through renting it.

The amount of funding and the level of riches of an individual also drives one to be irrational, since the psychological factor of intuition and socialisation my cloud over their decision-making process. Rationality dominates family with the motive of consumption – they would contemplate carefully, and they needed more time before deciding on buying a property in which they would reside. Lee et al. (2000) stated that limited funding in *younger couple* forces them to think more carefully and for a longer time before deciding. They would attain information about that property to their nearest acquaintances such as their family and friends. The information of experiences from their family and friends would strengthen their decision, and therefore the domination of considering through intuition would reduce. On the contrary, an investor would require a lot of information, especially regarding the prospect of the property in the future. That information would be acquired from the broker of a developer who has a broader knowledge about it. Experience and information about the prospect of property would drive the investor's intuition in deciding to purchase. The investor will then decide quickly, which leads to an irrational decision making.

The most important physical indicator leans toward the construction material, since both the buyer and investor desire the property to be strong and lasting for a long time. In one hand, the consumer wants a property that could be used for a long time, and on the other hand, the investor wishes that the property is strong enough that it does not need cost any renovation. Other physical indicators are interior design, the layout of the property, and the architectural style that would give added value to the investor. These, however, might be less beneficial for the buyer with a consumption motive. A buyer would prefer a house with a garage that gives a direct benefit when living in that house. Secondly, the neighbourhood indicator such as welfare, security, and cleanliness is also a significant indicator. Environmental indicators, namely the view from the house and the presence of green space in the area, does not give a

direct benefit for the consumer. However, investor desires that the property has a good view and a green space, for the property to have a higher price when rented or sold. Furthermore, *midlife household* does not show the difference between rational and irrational factor when deciding on a dual motive purchase of a property. As *midlife household* enters their retirement age, their concern for short-term purposes (consumption) and long-term purpose (investment) shows no difference. A need of housing has been fulfilled, and a house as an investment has been fulfilled too. The family no longer pursue more income to pile up their riches. They would prefer an environment where they can gather with their children, grandchildren, or friends around their house.

5. CONCLUSION AND SUGGESTION

Decision making in buying a property shows a difference between rational factor, namely physical and neighbourhood variables, and irrational factor, namely intuition and socialisation variables. This is caused by the existence of dual motives in property purchase. A test done on the group of *younger couple* shows that rational factor, particularly physical variable, and irrational factor, particularly socialisation variable, differentiate their decision making in the dual motive. However, the *midlife household* group shows no difference between rational and irrational factors in dual motives decision making. In the future, a control variable of age and income to be applied in the group *midlife household* is suggested. Its position as a buyer and investor is hoped to be better distinguished since the age range, and various income is not well described in this research. In general, *midlife household* group has a better financial condition than the *younger couple*, therefore making the *midlife household* group have more freedom in using their funds. Logical thinking, careful thinking, and psychological influence caused by a cognitive disability are caused by age factor would become one process when deciding on buying a property.

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