FACTORS INFLUENCING RESIDENTIAL MOBILITY IN PENANG ISLAND, MALAYSIA

by

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LIST OF ABBREVIATIONS

DOSM   :   Department of Statistics Malaysia

JPBD   :   Town and Country Planning Department (*Jabatan Perancangan Bandar dan Desa, Pulau Pinang*)

JPPH   :   Valuation and Property Service Department

MSR   :   Migration Survey Report

NAPIC   :   National Property and Information Centre

QoL   :   Quality of Life

DLT RSNPP 2030   :   *Draf Laporan Tinjauan Rancangan Struktur Negeri Pulau Pinang 2030*)

SES   :   Socioeconomic-status

DEFINITION OF KEY TERMS

Cost and Benefit : Estimation of positive and negative beneficial in mobility decision

Dichotomous/ binary variable : The usage of two options or alternative

Equilibrium consumption : Balance usage for housing consumption

Family Life Cycle : Classification of life into various stages of defining as age, ethnicity, marital status, household composition, income level, employment status of household head and other household characteristics

Filtering : Downgrade neighbourhood status

Gentrification : Upgrade neighbourhood status

Invasion and Succession : The patterns of neighbourhood change in social and economic features through migrants from abroad invaded the inner-city area and continue an outward movement from the core area

Migration : A decision making process which involves the origin and destination with interferences

Neighbourhood Quality : An array of spatially-based attributes includes physical, social and economic features

Push and Pull Theory : Pull factor influence residents to move into the city while the push factor like business downturns

Residential Location : The physical factors on site and situation of the dwelling and neighbourhood

Residential Location Choice : Preferences of dwelling and neighbourhood characteristics or location attributes preferences

Residential Mobility : Dissatisfaction towards dwelling and neighbourhood or mismatch between the needs

		and preferences of residents with their present housing situation
Residential Mobility Behaviour	:	The behaviour of moving by mobility intention and actual mobility
Residential Preferences	:	Residents desire for their housing preferences or choice associated with the reasons they intended to move
Residential Relocation	:	Selection of new residence location which benefits residents outweigh the aggregate costs
Residential Satisfaction	:	Difference between the residents or households' actual and desired dwelling and neighbourhood environment
Social Cohesion	:	Relationship with neighbours
Social Mobility	:	Individuals upgrading themselves to a better social status and position
Trade-Off Model	:	Relieving the weight of paying for costly houses with a lighter burden of transport costs

FAKTOR-FAKTOR YANG MEMPENGARUHI MOBILITI KEDIAMAN

DI PULAU PINANG, MALAYSIA

ABSTRAK

Berpindah rumah dalam jarak dekat, termasuk di antara bandar atau dalam bandar, dikenali sebagai mobiliti kediaman yang berkisar sekitar rumah dan perihal keluarga. Mobiliti kediaman berlaku berikutan daripada penyesuaian keperluan keluarga yang disebabkan oleh perubahan dalam perihal keluarga. Penduduk berpindah rumah kerana terdapat perbezaan antara keperluan dan kehendak yang terhasil daripada perasaan tidak puas hati terhadap kediaman yang mereka duduki. Peredaran masa yang berlaku mengubah persepsi penduduk sehingga menimbulkan rasa tidak puas hati dan membentuk keinginan kediaman idaman yang kehendaki pada masa hadapan. Selain itu, ketidakseimbangan terdapat pada penggunaan perumahan mempengaruhi penduduk untuk berpindah. Perlakuan mobiliti kediaman merangkumi juga niat untuk berpindah dan setelah terjadi mobiliti, kedua-duanya mempunyai kaedah pengukuran mobiliti yang berbeza. Kajian literatur telah mengenalpasti bahawa perihal keluarga, pemilikan dan profil rumah dan kualiti kejiranan mempengaruhi mobiliti kediaman. Bagaimanapun, sifat-sifat kualiti kejiranan jarang ditemui pada hari ini dan kebanyakan kajian menentukan tahap kepuasan penduduk tanpa melibatkan perhubungan mobiliti. Oleh itu, kajian ini mengenalpasti faktor-faktor yang mempengaruhi niat mobiliti kediaman di Malaysia dengan mengekstrak sifat-sifat kualiti kejiranan. Di samping itu, ciri-ciri kediaman dan perumahan mengikut kehendak penduduk dan apabila mereka berniat berpindah pada masa, hadapan turut dikaji. Kaedah soal selidik digunakan dengan memperoleh maklumat daripada 717 ketua isi rumah keluarga dari kawasan perumahan

terpilih yang dikategori sebagai kos rendah, sederhana dan tinggi di Pulau Pinang, Malaysia. Analisis logistik regresi digunakan pada kajian ini kerana melibatkan dua pilihan jawapan sahaja iaitu ya, ingin berpindah dan tidak, kekal di rumah yang sama. Penemuan kajian menunjukkan faktor umur, status perkahwinan, jenis rumah yang diduduki, jenis pemilikan rumah dan status sosio-ekonomi di kawasan kediaman penduduk mempengaruhi niat mobiliti kediaman. Seterusnya, dimensi kualiti kejiranan berikut iaitu komposisi dalaman rumah, kemudahan kejiranan, persekitaran kejiranan, interaksi dan keakraban dalam konteks kejiranan mempengaruhi niat mobiliti kediaman. Penemuan akhir menunjukkan harga rumah adalah pertimbangan dan kehendak utama bagi penduduk ketika membuat keputusan untuk berpindah pada masa hadapan. Oleh yang demikian, hasil penemuan kajian ini mengusulkan pencerahan dalam perancangan bagi menghasilkan perumahan, kediaman dan kejiranan yang dapat memenuhi keperluan dan kehendak penghuni kediaman. Ia dapat membantu industri perumahan negara, pihak berkuasa tempatan dan professional lain dalam meningkatkan kualiti perumahan sedia ada dan seterusnya tahap kepuasan penduduk serta kualiti hidup mereka.

FACTORS INFLUENCING RESIDENTIAL MOBILITY IN PENANG ISLAND, MALAYSIA

ABSTRACT

Moving house in a short distance, within inter or intra urban city, are known as residential mobility which postulates the stage on residential area and households events. Residential mobility occurs when an adjustments of housing needs are made by the inhabitants to accommodate changes during family life cycle phases. Residents shifts homes because the mismatch between needs and preference which implies dissatisfaction perceives to current home. These dissatisfaction and changes over the time leads to residential preference which lead to search at desired housing characteristics in the future. Subsequently, disequilibrium housing consumption triggers residents to leave. Residential mobility behaviour refers to both actual moving and mobility intention which involves different approaches to measure. The literatures indicates that family life cycle, tenure ownership and housing profiles, and neighbourhood quality affects residential mobility. However, the attributes of neighbourhood quality is rarely to be found and most studies examines residents' perceptions towards their neighbourhood without linkage to mobility. Hence, the study examines the factors influencing residential mobility intention by extending the attributes of neighbourhood quality. Ditto, the characteristics of residential preferences when they decided to move in the future. The study employs a questionnaire survey for data collection involving 717 households residing at selected low cost, medium cost and high cost housing schemes in Penang Island, Malaysia. The study used logistic regression analysis because dichotomous variables employed in residential

mobility intention, yes to move or no by stay. The results showed that residents' age, marital status, dwelling type, tenure ownership and their socio-economic status significantly affect residential mobility intention. Next, the attributes of neighbourhood quality that influence residential mobility consists of dwelling features, neighbourhood facilities, neighbourhood environment, and neighbourhood interaction and attachment. Lastly, housing price is the main consideration and preference for next mobility. The findings provide important insights and guidance on planning for a better housing and residential neighbourhoods that satisfy the community's housing needs and expectations. It is imperative that policy makers, housing professionals, local authorities and the housing industry provide better housing and improve the neighbourhoods' areas to enhance the residents overall satisfaction and quality of life.

CHAPTER 1

INTRODUCTION

The chapter presents an overview of linkages factors influencing residential mobility. The chapter provides general understanding on residential mobility which shaped by family life cycle, tenure ownership and housing profiles, neighbourhood quality. This chapter discusses the background of the study, problem statement, research objectives and framework. It concludes with the significance of the study and organisation of the thesis.

1.1   Background of the Study

Mobility pattern from rural to urban has been widely known in the world of whereby most developing countries recorded similar moving pattern. A multitude of attraction in city centre influence residents to move in while less economic activity push residents to move out. Originally this is known as migration that drove people into crossing the countries or in very long distance. Developed countries leads this moving pattern earlier than developing countries. They discovered a new moving style which was namely residential mobility. Rather than cross the countries or looking for jobs, residents leaves their home because of dissatisfaction and stress surrounding their neighbourhood. Hence, they moved into another house even though it is a short distance away. Residential mobility is essentially an insight into the house or dwelling and neighbourhood.

It is important to differentiate between residential mobility and migration although both are similar in depicting the process of people moving or shifting from one place to another for particular reasons. Residential mobility refers to people

moving to another house located within localised areas; it is an intra-urban or inter-neighbourhood move that does not cross national boundaries and that the move is primarily due to residential dissatisfactions (Warner & Sharp, 2015). Migration is mainly conditioned by contending push and pull factors between developed and developing areas or regions (E. S. Lee, 1966). Basically moving over longer distances or across national boundaries necessitates marked changes and adjustments in community affiliation, employment place and job status (Bogue, 1959; Mateyka, 2015). Migration entails search for accommodation following personal decision to accept new employment, pursue higher education or seek better economic opportunities (Mulder, 1996). In brief, the pioneer of moving due to personal circumstances with longer distance across the country is commonly known as migration.

Residential mobility is considered as an intra-urban movement in spatial context across or within localised areas such as city or neighbourhood (R. Liu, 2015). In the literature, residential mobility is used interchangeably with residential relocation (Riley, Nguyen, & Manturuk, 2015). Relocation is selection of new residence locations in which the benefits to residents outweigh the aggregate costs. This also relates with residential preference which gives an insight of residential mobility for future.

Residential mobility is shaped by a mismatch between residents housing needs and preferences, in relation to their present housing characteristics (Feijten & van Ham, 2009; Lu, 1998; Speare, 1974). The dislikes and unfavourable features of current home creates unsatisfied perception. This leads residents to decide to move out, the outcome of varying levels of dissatisfactions arising from their current home, in comparison to residents housing needs and preferences (Brown & Moore, 1970; Clark

& Dieleman, 1996). It is certain that resident would seek better housing quality than their previous experience. The dissatisfaction list of housing needs prompt residents to move elsewhere in search of better quality dwelling and neighbourhood environment (Amérigo & Aragonés, 1997). This study subscribes to the notion that the feeling of dissatisfaction among residents is one of the underlying factors in the likelihood of residential mobility, which manifested in the residents future mobility plans and behaviours (Varady, 1983). Despite the dissatisfaction experienced, residential preferences evolve by indicating housing characteristics they need and wish to obtain in future.

Notably, residential mobility among residents can be classified as (i) actual moving; and (ii) mobility thought or intention (B. A. Lee, Oropesa, & Kanan, 1994). These mobility enable to trace the trends and pattern of residents' mobility behaviour. Actual moving or actual mobility is performed when there are no explicit physical, social or economic barriers to move (Mulder & Hooimeijer, 1999). Meanwhile, mobility thought or intention refers to the deliberate act of thinking, considering, wishing, willing, planning or expecting to move elsewhere (de Groot, Mulder, & Manting, 2011; Van Ham & Feijten, 2008). Both actual mobility and mobility intention are commonly used in residential mobility studies as indicators to denote mobility plans and behaviours. Indicators of mobility intention are always measured together with actual mobility in important scholarly works (de Groot, Mulder, Das, & Manting, 2011; de Groot, Mulder, & Manting, 2011; Lu, 1999b). The study employs mobility intention due to time constraints.

An indication of varying residential dissatisfaction suggests that those particular residents already have their own residential preferences for housing choice,

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and that their desired housing characteristics are already formed once their residential mobility intention are determined (Heaton, Fredrickson, Fuguitt, & Zuiches, 1979; J.-H. Kim, Pagliara, & Preston, 2005). Their relationship has been proven by measuring residential satisfaction which inevitably appear mobility intention if the residents not satisfied with existing home. These studies found that mobility intention, actual mobility and residential satisfaction are all highly correlated with one another (Kley & Mulder, 2010; Lu, 1998; Parkes & Kearns, 2003; Speare, 1974). The connection between these parameters is confirmed and proven by previous studies and influence the study to explain with a different adaptation.

Residential mobility behaviour can be assessed via indicators of residential satisfaction (Amérigo & Aragonés, 1997; A. M. M. Liu, 1999; Lu, 1999a; Varady, 1983). Their feedback could be cultivated through satisfaction evaluation. Residential satisfaction is defined as the difference or gap between the residents preferred housing in future (also known as residential preferences), and their present housing situation (Amérigo & Aragonés, 1997; Galster & Hesser, 1981). Residential preference is a key indicator of residents housing choices and housing characteristics. Residential preference is considered as an influencing factor on residents decision to relocate in a particular housing environment (Vasanen, 2012) and to choose specific housing characteristics; hence, residential preferences can help explain patterns of residential mobility (Howley, Scott, & Redmond, 2009). Residential satisfaction and preference simulates mobility decision process that causes from the dissatisfaction or mismatch. The process encountered residents desire to have certain housing characteristics which they wish to obtain in the future mobility. Residential preferences play a major role in the decision making process towards moving to another house or in making specific neighbourhood selection (Li & Huang, 2006). There are bunch of selection of housing

characteristics but they have to select the related and suitable for them including financial ability. Literature shows that both residential satisfaction and residential preferences are highly interrelated and may affect mobility intention among residents to move elsewhere (Heaton et al., 1979; Parkes & Kearns, 2003). Therefore, the usage of residential satisfaction and preferences are a matching combination to determine residential mobility.

Notably, residential mobility is a complex spatial-temporal phenomenon which occurs as a consequence of contending push-pull factors in the neighbourhood environment or in the housing market on the macro scale and as well as varying levels of residential dissatisfactions among residents at the other micro scale (de Groot, Mulder, & Manting, 2011; Ginsberg & Churchman, 1984; Kan, 1999; Michelson, 1980). These micro and macro perspectives are similar with direction of internal and external factors, as well as endogenous and exogenous which drives residential mobility.

Residential mobility can be regarded as adjustments of housing needs made by residents in order to accommodate necessary changes in the family composition as a consequence of family life cycle stages (Rossi, 1955). This can be related to the increasing member of a certain group in population data of Penang. DLT RSNPP 2030 reported the rates of matured people (older people) in Timur Laut district has been increasing at 8.34% which is exceeding the total average of Penang state at 6.54%. Also, this group recorded increasing rates for each district in Penang with the annual average population growth rate for 65 years old and above at 3.5%. It might be possible that this group may leave their homes in the future. Such retired persons have no commitment or job to which they might change of their living place. In addition,

population group age showed 1.08% additional growth rate for each group population starting from 20 years old until 85 years and above in 2014 (RSNPP, 2030). This means each group has an additional number of people including the study grouping into younger group (25-49 years old) and matured people (50 years old and above).

These data may relate with residents who had experienced changes in household size or family composition under life cycle stages. They may decide to leave their current residence and settle down in another house, neighbourhood, community or city. Family life cycle describes a family's intellectual and emotional changes through phases of marriage or divorce, births and deaths, which are reflected in the family's income level and consumption patterns (Clark, 1992; S. Kim, 2011; Warner & Sharp, 2015). Their life cycle stage may change by welcoming additional member, getting married and other events which can be unexpected. As literature emphasises on the process of change affecting the household size and family composition which in turn triggers housing need adjustments (Brown & Moore, 1970; de Groot, Mulder, Das, et al., 2011; Dieleman, 2001; Mulder & Hooimeijer, 1999).

Key indigenous factors are highlighted in the literature to explain residents' short term and long term choices and decisions on residential mobility. Family life cycle is the most fundamental in residential mobility trajectories because making housing adjustments to satisfy family needs indeed are crucial matters. Family life cycle is a critical factor that could change individuals or households' housing needs and neighbourhood suitability over time (Rabe & Taylor, 2010). Literature shows that younger people are more likely to move than matured people; likewise, single persons are more likely to move than married couples. Hence, characteristics of family life cycle do have an effect on residents' intention or interest to move.

Moving from one house to another house within a short distance is very rare in Malaysia. The literatures indicates forms of housing need adjustments as demonstrated by residents include moving out of current residence and relocating elsewhere, revising housing tenure and changing housing type (Eui-Chul & Dong-Hoon, 2000; López-Ospina, Martínez, & Cortés, 2016). Changing ownership status from renter to owner is possible in Malaysia. Tenure ownership are associated with attempts for residential mobility (Alkay, 2011; Mulder & Hooimeijer, 1999). Perhaps, residents need to change their rental house when the owners want his house back by moving in a short distance because they were comfortable and familiar with that area. These kind of experience has been heard many times in Malaysia. Empirical evidence showed that homeowners are more likely to refuse moving; while renters are unlikely to own housing within a relatively short term (Boehm, 1981; Ferreira, Gyourko, & Tracy, 2010). Thus, frequent movers are most likely to be renters rather than home owners for basic economic reasons (Ioannides & Kan, 1996).

There are also situation of people bought second house to live and leaves the old house for rental or homestay. Nowadays, these are trends that people generate income and expand their properties. Residents may change tenure ownership to change housing type from high rise to landed properties. This indicates their housing profiles is changed too. Probably, residents would consider their children growing process of which landed properties is better for them, so that they can play around at the yard. Besides, length of tenure is one of the predictors in residential mobility (Ibrahim, 1991; Permentier, van Ham, & Bolt, 2009). The longer people are living in the house, the more difficult to leave than staying for a short length. This includes with attachment and bonding with the place that make it hard for people to move out. Besides, housing

profiles can provide key information on the house such as bedrooms, housing type and anything relates with physical features of the house.

There are issues highlighted in the DLT RSNPP 2030 that includes accessibility, expensive housing, unsuitability of housing type and its design, less integration among neighbours and bad condition of existing house in Penang. These houses and neighbourhood changed over a time. Development keep growing, surrounding the houses which may affects positively and negatively. Such residents may receive upgrades on infrastructure surrounding their neighbourhood. They may also be facing problems with accessibility, noise and pollution because of the crowded density and involves concentration of many people at one place. Possibly, housing physical appearance and its neighbourhood might change unless maintenance and cleanliness is under adequate care.

Literature also highlights exogenous or external factors such as neighbourhood quality which influence residents housing choices and decisions, and in turn affect residential mobility. Discourse on neighbourhood quality literature is presented under various themes of accessibility, facilities, physical, environment and socio-economics (Koopman, 2012). Factors of neighbourhood quality which cover physical, social and economic components may well influence residential mobility choices and decisions (Howley, 2009; Lovejoy, Handy, & Mokhtarian, 2010). Such situation can be evaluated by conducting households' perception surveys (Boehm & Ihlanfeld, 1986; Feijten & van Ham, 2009; Woo & Morrow-Jones, 2011). Neighbourhood quality can be assessed through key indicators such as adequacy of physical, social and economic components in the neighbourhood; and residents level of satisfaction and perception

of housing and neighbourhood conditions (Fattah, Badarulzaman, & Ali, 2015; Lovejoy et al., 2010; Scorbureanu & Scorbureanu, 2012).

The physical aspects of neighbourhood quality are considered as the most important factor contributing towards enhanced neighbourhood satisfactions among residents (Sirgy & Cornwell, 2002). The physical elements of neighbourhood environment include dwelling features (Frank & Enkawa, 2009; Lawton, Murphy, & Redmond, 2013), dwelling utility (Salleh, 2008), neighbourhood facilities (Moser, 2009; Yi & Lee, 2014), neighbourhood greenery (Clark, Deurloo, & Dieleman, 2006; Hur, Nasar, & Chun, 2010), neighbourhood public transportation (Andersen, 2011; Molin, Oppewal, & Timmermans, 1999), and neighbourhood accessibility (Guo & Bhat, 2007; Hur & Morrow-Jones, 2008).

Likewise, residents satisfaction with the social components of neighbourhood quality is a robust predictor of neighbourhood satisfaction (Sirgy & Cornwell, 2002). Social attributes as discussed in the literature include attachment to the community (Livingston, Bailey, & Kearns, 2010; Mesch & Manor, 1998; Theodori, 2001); and social interaction and relations among neighbourhood residents (Bonaiuto, Aiello, Perugini, Bonnes, & Ercolani, 1999; Delmelle, Haslauer, & Prinz, 2013; Mohit, Ibrahim, & Rashid, 2010; Permentier, 2013). Indications of social attributes can influence residents perception and satisfaction with levels of interaction and sense of attachment towards respective neighbourhoods (Livingston et al., 2010; Vera-Toscano & Ateca-Amestoy, 2008).

Similarly, attributes of economic livelihood of neighbourhoods are likely to influence residents level of satisfaction for dwelling and neighbourhood (Sirgy & Cornwell, 2002). High mobility rates and active mobility patterns correspond

favourably to robust economic aspects of neighbourhoods (Todaro, 1980). The flow of migrants to urban area are often associated with greater economic opportunities in urban regions (Wu, 2006). Thus, lucrative economic features may increase residential mobility as well as contributes to high regional mobility (Andersen, 2011; Dohmen, 2005; Ferreira et al., 2010; Greenwood, 2014).

Neighbourhood quality dimensions includes physical, social and economic features as a contributory factor to residential satisfaction is a key motivation explaining residential mobility behaviours among residents (Paddison, 2012). Empirical evidence showed that neighbourhood quality has an influence on residential mobility (Boehm & Ihlanfeld, 1986; Clark et al., 2006; Scorbureanu & Scorbureanu, 2012). Residents would stay when they are happy and vice versa. Likewise, residential mobility tends to decrease when residents are satisfied with their dwelling and neighbourhood and vice versa (Boehm & Ihlanfeld, 1986). Critics argued that indicators of neighbourhood quality in previous research were not comprehensive and that many indicators lacked specific dimensions or measurements (Hall & Greenman, 2013). Less attention on neighbourhood quality which previously was describe as single dimension. Hence, the need for key neighbourhood quality attributes to encompass an extensive coverage of physical, social and economic features that can affect residential mobility. Such detailed measurement and scope of dwelling and neighbourhood are examined under neighbourhood quality dimensions which may influence residents' satisfaction and affect residential mobility intention.

Residential mobility is also dependent on the allocation of dwelling choices in the housing markets at the macro level (Kwon, 1984; Nijkamp, Van Wissen, & Rima, 1993; Opoku & Abdul-Muhmin, 2010; Wiest, 2011). Housing market conditions and

general economic opportunities may stimulate residents intention to move (de Groot, Mulder, Das, et al., 2011). Such push and pull attraction that influence residents to move in and out are relation to economical features. A flexible housing market which offers relatively cheap cost of living at low consumption levels encourages more residential mobility (Clark & Huang, 2003; Hui, Li, Wong, Yi, & Yu, 2012). Similarly, availability of housing stock, economic attractions in the city and lucrative gains to residents increases residential mobility. Residential mobility can be perceived as an outcome of housing market search which relates to residents housing needs or residential preferences in an effort to improve conditions of their residence (Mulder, 1996). Housing market inevitably influence residential mobility.

However, a detailed study of the functions of the housing market in relation to residential mobility is beyond the scope of the study. The housing market is very complex and linked to three tiers of government (federal, state and local) under regulatory housing policies (R. Said, Adair, McGreal, & Majid, 2014). Adding to the complexity, developers and bankers also play important roles in housing market conditions. Housing market is also characterised by significant market imperfections, so much so that homeownership is mainly dictated by economic determinants other than preferred choice (Cronqvist, Münkel, & Siegel, 2014). Although local contextual effects are important in determining residential mobility, the underlying preference to move are more or less the same in a housing market (Clark & Huang, 2003). Hence, the study does not include housing market in its conceptual framework because of its complex nature which requires econometric modelling of demand and supply of the housing market (Ha, 2013).

Mobility patterns in Malaysia during 2011 tends to show intra and inter-state movement which residents mostly moving within the state. Intra-state mobility recorded 59% while inter-state movement at 27.8% only (Department Statistics of Malaysia, DOSM). This trend indicates residents prefers to move within their born-states. Specifically in Penang, the state listed the highest mobility rates at 31.4% in 2011. There is approximately around 31 persons additional for every 100 interstate movement in and out of Penang. An interesting study to further investigate in that 100 people moving between the states in Malaysia equals to 31 persons moving to Penang. Thus, understanding the factors influencing residential mobility can provide a significant insight in the residential mobility studies, especially in a rapidly developing area of Penang Island, Malaysia.

With reference to a book entitled '*Profil Bandar Pulau Pinang'*, published by the Department of Town and Country Planning, Peninsular Malaysia and Ministry of Urban Wellbeing, Housing and Local Government (2009) allocates these ten locations in Penang. The places are Bayan Baru, Bayan Lepas, Sungai Ara, and Balik Pulau included as Barat Daya (West-South District) and Tanjung Bunga, Tanjung Tokong, Georgetown, Sungai Dua-Sungai Nibong, Gelugor and Air Hitam are renamed as Timur Laut (North-East district). The study choose these location which included under i) the districts of Penang Island, ii) listed of community/ town growth centre, iii) residential areas and households units and iv) listed in Valuation and Property Service Department (JPPH) and National Property Information Centre (NAPIC) showed the housing scheme and range of housing price.

1.2 Research problems

The reasons people moved hinges numerous events in human life. Moving behaviour is widely discussed in various research fields such as geographical, sociological, psychological, and economical views. Residential mobility is one of moving behaviour that describes how people moved within the cities or neighbourhood. The changes in the living conditions of residents over space and time influence their decisions to move. People moved because there is housing consumption disequilibrium (Boehm & Ihlanfeld, 1986). What triggers them to move even in a short distance? What are the core trajectories that influence residents to move? There are many other pertinent issues that need to be answered.

Family life cycle is recognised as one of the major parameters in residential mobility studies. An adjustment or changes in family life cycle triggers residential mobility. Also, the complexity of life cycle stages is beyond people's expectations; hence there may be a discrepancy between stated intentions and actual moving behaviour (Lu, 1999b). The changes in family life cycle attributes on households' socio-economic-status (SES) includes age, marital status, household size, household income, educational background and employment status (Hipp, 2010; Hui et al., 2012; Wang & Li, 2006). Some adjustments in these factors explains why people do not always perform the move according to their intentions (de Groot, Mulder, Das, et al., 2011). Besides, the impact of family life cycle is difficult to predict beforehand on actual mobility behaviour since its impact differs between those expecting to move and those expecting to stay; and that life cycle is noted to be mostly inconsistent and unanticipated (de Groot, Mulder, Das, et al., 2011). Thus, family life cycle may facilitates or restrain residential mobility. In fact, family life cycle and residential

mobility intention provide indications on the likelihood of mobility (Woo & Morrow-Jones, 2011).

In family life cycle context, the aging population from 65 years and above in Penang experienced a steady rise from 3.5% of total population in 170 to 4.20% in 1980, 4.8% in 1991 and 5% in 2000. This group continued to increase to 5.3% in 2010 and the projection in 2020 estimated at 6.3% (National Higher Education Research Institute, 2010). Penang was ranked as fourth for the major migration (out-migration) among the states of Malaysia in 2011. Migration Survey Report in 2012 indicates 2% of intra-state migrants and 1.2% of inter-state migrants in Penang. Perhaps, this aging population relates with moving behaviour in order to change their residential environment and any life cycle development stage.

DLT RSNPP 2030 mentions imbalance ethnic distribution in Penang by ownership of different ethnics and districts. Existing housing provision revealed high cost housing are dominate by Chinese while low cost housing mostly owned by Malays. Indirectly, this reflects the households' income of residents in which the Chinese can afford to buy high luxury homes more than Malays. In fact, this issue has been existence a long time ago. Even the literatures indicate that ethnic minority are triggers to leave as they feel insecure and discomfort by living with different ethnic or dominated by another major ethnic in their neighbourhood (Claudia, Brett, & Margery A ., 2013; Feijten & van Ham, 2009). Thus, these situations in housing provision found in Penang would probably influence residents to leave.

Tenure ownership shapes to residential mobility. A study found that residents with ownership status are likely to move more than renters (Varady, 1986). Despite that, many studies found probabilities of moving is higher for renters than owners

(Ferreira et al., 2010; Mateyka, 2015; Parkes & Kearns, 2003; Sánchez & Andrews, 2011). This would be indicating that ownership status could not assure it either residents may refuse to move or triggers residential mobility. The literature indicates residents act rationally in their choice of homeownership status which stimulate the probability to move (Özyıldırım, Önder, & Yavas, 2005). Besides, the longer residents lives in the house the probability of moving is lower. Also, length of stay influence mobility decision (Grinstein-Weiss et al., 2011; Li & Huang, 2006). While a housing profiles shows the preference and characteristics of the house which residents' found to be dissatisfied and therefore wishes to avoid in future mobility. Dissatisfaction can includes for dwelling types, number of bedrooms and more. Thus, many factors in tenure ownership and housing profiles may influence in residential mobility.

Residents' perspective on their home and neighbourhood differs over the time. This is because the perception can change on neighbourhood which can influence mobility decision (Boehm & Ihlanfeld, 1986). Also, this fundamental change in living conditions of households influence mobility decision (Dieleman, 2001). The changes of dwelling and neighbourhood occurs when residents moving in and out from neighbourhood constantly (Hedman, 2011). Likewise, mobility shapes and reshapes the structures and conditions of neighbourhood which affects both behaviours and outcome for residents. Thus, assessment of neighbourhood is needed to measures residents' assessment on their dwelling and neighbourhood.

Residence and neighbourhood is a powerful driver of residential mobility which is facilitating or constraining home moves and neighbourhood choice (Lennon, Clark, & Joshi, 2016). Previous studies investigated the effects of selected neighbourhood attributes on housing satisfaction. Neighbourhood satisfaction reflects both the

intrinsic attributes of social interactions and neighbourhood attachments; as well as the observable physical attributes of housing design layout and house price (Koopman, 2012). However, the overall magnitude and extend of their influence on residential mobility behaviours still remain unclear (Clark et al., 2006). Despite many studies have revealed various neighbourhood context with residential mobility, the scholar asserts why it is difficult to assess neighbourhood quality? (Koopman, 2012). This probably relates to various features and attributes of neighbourhood context.

Neighbourhood quality is a spatial attributes which consists of physical, social and economic features. There are many attributes which can be improved in order to gain satisfaction and quality of life. It is imperative that neighbourhood quality be considered as a basic environment unit in which our social life takes place, which in turn affects residents satisfaction (Hur & Morrow-Jones, 2008). Neighbourhood quality can change over the time and geographic location as well (Koopman, 2012). As such literatures mentioned neighbourhood quality influence residential mobility (Boehm & Ihlanfeld, 1986; Clark et al., 2006; Parkes & Kearns, 2003). Hence, the attributes of neighbourhood quality which is spatially based on cities or neighbourhood is very challenging and interesting to investigate and links to moving behaviour.

There is limited research on the neighbourhood context as a factor influencing residential preferences, which in turn shapes residents mobility decisions (Van Ham & Feijten, 2008). Necessities and specific characteristics needed by people who make choice based on preferences (Dieleman, 2001). It is important to consider residential mobility decisions that specify the characteristics of residential preferences (Wiest, 2011). Residential preferences constitute choices and selections of future dwelling and neighbourhood characteristics, which translates into demands, which is directly shaped

by personal needs and previous housing experiences. In other context, trade-off model and cost and benefits concept likely simulates residential preferences.

Residents perception towards particular neighbourhood features are perceived to be their residential preferences; which contain valuable information for architects and planners in designing new dwelling projects and neighbourhoods (Coolen, 2006). Changing preferences by the residence in accordance with changing family composition and family needs and aspirations (Sabagh, Van Arsdol, & Butler, 1969). Thus, residential needs and aspiration comprise one of the best documented discoveries of metropolitan changes or neighbourhood.

In one of the few studies examining neighbourhood preferences from house buyers' perspectives in Malaysia (Teck-Hong, 2011), his study highlights neighbourhood safety and locational attributes as top priority for residential preferences. Although it is difficult to ensure residential preferences that meet all resident's needs, the findings reveal vital insights into housing desires and preferences by residents. This is because residential preferences is very subjective and trends of housing market may assist to identify. An example on low cost in Malaysia is found to be generally lacking in good access to housing (Foo & Wong, 2014). This preferences which currently is lacking might be improved for good access in low cost housing in the future.

The study concentrates on Penang Island because the housing prices on the island are several folds more expensive compared to those on the main land. Increases in average house price is driven by property hike in Penang Island with most terrace, high rise and semi-detached property types selling at two to eight times higher compared to houses on the mainland (Macdonald, 2011b). In 2014, house prices in

Penang Island was beyond the reach of most Malaysians as the actual median house prices in Penang was RM 295,000 compared to the nation median house prices at RM 169,000 (Bank Negara Malaysia, 2015). Thus, research on residential mobility context at Penang Island as a case study exposes the dynamic occurrence on why people intend to move, a pressured up in face of tremendously expensive of housing price.

Specifically changes in circumstances over space and time such as dwelling and neighbourhood conditions, events or adjustment in family stage influence the housing choice and patterns of mobility (Dieleman, 2001). Residential mobility occurs due to change or an adjustment in the micro context of family stages to the macro level of neighbourhood. These factors explains the shape of residential mobility.

1.2.1 Research gap

Residential mobility (or residential relocation or propensity) is widely discussed in various research fields such as transportation, urban planning, housing policy, regional science, economics, sociology, and geography. However, a lack of clear conceptual and methodological framework hinders in-depth empirical testing of current mobility models since different pre-moving thoughts are considered to be distinctive concepts produced by specific sets of influencing factors (Kley, 2011). The links between the neighbourhood context and residential mobility intention enables to provide conceptual and methodological framework especially in the urban planning realm. Existing literature does not show comprehensive framework of residential mobility process that involves moving in and out.

Migration and residential mobility both refer to distinct mobility activities and context; residential mobility in particular is mostly concerned about housing needs

adjustment (Howley, 2009; Morris & Winter, 1975). In Malaysia, residential mobility is a new research niche area since previous works focused primarily on migration studies (Abdul Rashid, Ab. Ghani, Ngah, & Mat Yasin, 2014; Fadzil & Rashid, 2014; Roslam, Jali, & Mohammad, 2010; Rostam, Choy, Sakawi, & Nor, 2010; Tey, 2012). The exception is Ibrahim (1991) whose study examines residential mobility in association with family life cycle, homeownership, residential preferences and spatial context of neighbourhood with special reference to the Malay middle class of Kuala Lumpur. With limited research and data on residential mobility, its link to the housing situation in Malaysia is still unclear. The Department of Statistics Malaysia (DOSM) in its annual publications employed migration data, not residential mobility data, to indicate the extent and magnitude of residential mobility among Malaysians in the context of rural to-urban areas, urban-to-urban areas and inter-state areas.

Literature on migration in Malaysia highlights intra-urban migration to examine urban sprawl patterns in Klang Valley and Kuala Lumpur (Abdul Rashid et al., 2014; Tey, 2014). Urban sprawl in Klang Valley and Federal Territory Kuala Lumpur and Selangor was due to high property price in core city areas pushing the demand for land property outwards to peripheral urban areas (Roslam et al., 2010). Other migration studies in Malaysia also focused on intra-migration between states and emphasises Klang Valley as nodes for administrative, commercial, industrial and educational needs (Tey, 2012). Since previous studies focused on Klang Valley, there is limited research on residential mobility elsewhere in Malaysia including Penang Island. This depth of research affects the conceptualisation of issues and ramifications of high intra-urban residential mobility.

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There is lack of attention on the factors of family life cycle, tenure ownership and housing profiles affecting residential mobility as this niche research area is still new in Malaysia. Subsequently, existing migration studies does not pay attention on family stages adjustment (Abdul Rashid & Ab. Ghani, 2014; Abdul Rashid et al., 2014; Roslam et al., 2010; Tey, 2012, 2014). In Malaysian society, it is very rare to move frequently especially with changes of tenure ownership in which people would assumes moving would be wasted. However, the changes of ownership may reveals the expansion of properties as well as upgrading status into the owner of the house. Thus, exposure of family life cycle, tenure ownership and housing profiles increase the collection of empirical studies a priority in residential mobility context in Malaysia.

The study is focused on Penang Island since Penang State as a whole has experienced high rates net migration in Malaysia recently. The Migration Report Survey (2011) showed that Penang State recorded the highest migration rate in Malaysia at 4.4%, which is an increase of 0.6% from 2010. In 2012 Penang scored the second highest national migration rate at 3.5%. Furthermore, net migration rate in Penang increased to 87%, from 5,980 persons in 2003 to 11,190 persons in 2007 (Migration Report Survey, 2009). Penang also recorded among the highest number of migrants for intra-urban mobility after Selangor State in 2011. Penang is poised at fourth place for the highest out-migration rates among all Malaysian states. Increased mobility patterns in Penang State in recent years necessitate an in-depth study to understand residential mobility behaviours in Penang Island.

Only few research examined the neighbourhood context as an influencing factor on residential mobility (Hedman, 2011; Kearns & Parkes, 2003; Parkes & Kearns, 2003; Quigley & Weinberg, 1977; Van Ham & Feijten, 2008). Previous

studies analysed neighbourhood changes or housing satisfaction, but dismissed establishing any linkage with residential mobility (Bonaiuto, Fornara, & Bonnes, 2006; Harrison, 2004; Hipp, 2010; Hur et al., 2010; Kearns & Mason, 2007; Permentier, Bolt, & van Ham, 2011; Verburg, de Nijs, van Eck, Visser, & de Jong, 2004). Most previous studies focused housing profiles on low neighbourhood socio-economic status (SES) and substandard neighbourhoods, and family life cycle context such as ethnicity, tenure ownership, income levels (Andersen, 2011; Hui et al., 2012; Stefanie A Kley & Mulder, 2010) as factors shaping residential mobility. Residential mobility repeatedly show the moving pattern that are structured along ethnic, socio-economic and demographic lines (Hedman, 2011). Neighbourhood is the spatial context where people tend to move to neighbourhoods where the inhabitants resembles themselves. Thus, the study gathers the factors that are related which influence residential mobility.

According to Randall, Kitchen, & Williams (2008), there are limited neighbourhood comparative studies based on residents SES to examine varying socio-economic characteristics and residential satisfaction amongst diverse groups of neighbourhoods. Residential satisfaction in Malaysia is generally indicated by housing schemes (low, medium, high cost) instead of actual household income levels. The Malaysian literature focuses on specific socio-economic status (SES) or housing scheme with no attempt at SES comparative analysis (Mohit et al., 2010; Salleh, 2008; Tan, 2012a). Such residential satisfaction mainly focusing on low cost housing schemes (Mohit et al., 2010; Salleh, 2008) and there is limited research on residents satisfaction in medium and high cost houses in Malaysia (Tan, 2012a). Hence, the study employs three housing schemes of low cost, medium cost and high cost to compare the levels of residential satisfaction in those housing schemes.

1.3   Research Questions

Detailed discussions on the problem statement give rise to the important research questions as follows:

i.   To what extent do factors of family life cycle, tenure ownership and housing profiles affect residential mobility?

ii.   To what extent do factors of neighbourhood quality affect residential mobility?

• What are the residents' levels of satisfaction and perception on neighbourhood quality?

iii.   What are the residential preferences in their residential mobility?

1.4   Research Objectives

Based on the literature review and problem statement, the objectives of the study are formulated as follows:

i.   To examine the factors of family life cycle, tenure ownership and housing profiles that affect residential mobility.

ii.   To investigate the factors of neighbourhood quality that affect residential mobility through:

• The residents level of satisfaction and perception on neighbourhood quality

iii.   To determine the residential preferences in their residential mobility.

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1.5   Significance of the Study

Many previous studies investigated housing and neighbourhood satisfaction levels per se but do not consider their overall effects on residential mobility. Previous studies on residential mobility on the other hand overlooked the importance of the neighbourhood dimensions. Hence, the study incorporates a more comprehensive neighbourhood quality features of physical, social and economic dimensions and discuss their possible linkages with residential mobility intention.

Research on residential mobility is an important avenue to understand the experiences of marginalised groups in an urban society. An understanding of residential mobility is vital for planners and policy makers due to its broad implications on the housing market as an economic injector (Kwon, 1984). Measurements of residential satisfaction can also be used as a success factor in city planning agenda (Mohit et al., 2010).

In many countries worldwide, intra-urban migration is synonymous with residential mobility. The Department of Statistics, Malaysia (DOSM) produced national migration data published annually in the Migration Survey Report (MSR); but data on residential mobility is unavailable. Malaysia is lacking on residential mobility studies since most literatures focused on migration in Klang Valley and Kuala Lumpur only. Hence, expansion on neighbourhood quality in Penang Island context would be much differ from Klang Valley. The study provides an insight of residential mobility studies in Malaysia as it highlights residential preferences for housing attributes and neighbourhood characteristics.

1.6   Research Framework

The research framework is presented in three sections as follows: i) literature review; ii) research methodology; and iii) data analysis and findings. Section One explains the concept and theory of residential mobility, the practice and theory of mobility, and factors that shape residential mobility. This is followed by a discussion on residential satisfaction, and residential preferences in relation to the residents housing desires and needs. The conceptual framework of the study is presented by articulating the research questions and objectives supported by relevant literature review. Baseline study of Malaysia in general and of Penang Island specifically derived from the Department of Statistics, Malaysia (DOSM) and the annual Migration Survey Report (MSR) to provide an overview of the mobility patterns and flows in Malaysia since 1970s. The mobility trend is available for intra and inter-state, as well as the urban and rural flows. The MSR reports present discussions on why Malaysians move from one area to another and this information provides a basis of understanding residential mobility in the study.

The research methodology in Section Two explains the research design and reviews the methodology employed in previous studies on residential mobility. The study uses cross sectional studies instead of longitudinal approach due to time constraints. This is because more than one time data collection needed in longitudinal studies. In contrast, one time frame data collection can be done with cross sectional approach. Based on the literature, this study adopts a quantitative approach, conducts a questionnaire survey and determines an appropriate sample of respondents for the study.