The Impact Of Buyers' Demography On Property Purchasing

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Abstract

Demographic criteria usually relate to the person's characteristics. They measure people's affordability and capability, which could be at various levels. In addition, different demographies contribute differently to a buyer's choice in life. This study examines the impact of buyers' demography on property purchasing using Chi-square Test. A questionnaire survey was used for collecting primary data in the state of Selangor with particular reference to buyers' demography and housing attributes. The outcome shows that elements of the demography especially employment, marital status and gender have significantly affected property criteria which become main aspects that have always been considered by the buyer prior to purchasing a housing unit.

Keywords: *Property, Housing, Demography, Behaviour*

1.0 Introduction

Selling a house becomes one of the activities that would encourage property development in any country. In Malaysia, developers implement various strategies in order to market their property products. In addition, the market situation which normally involves various cycles is normally used as the main guide to determine the right time to sell the house. In another word, multiple factors that relate to the market situation have always been listed down by the developer in order to make important decisions about selling the products. Even though the significant factors come from the market perspective, developer should identify the structure and the criteria of the demography for the residents around the area concerned. This is because demography becomes the suitable aspect in measuring the property development (Swan, 1995).

In order to gain greater insight into the relationship between the demographic and property criteria, this paper will be organised as follow: First, relevant fields of literature to this research are discussed. This will be followed by the discussion of demographic criteria, data and research methodology. Thereafter, conclusions which are based on field survey are discussed.

2.0 Literature Review

Demography as a part of the population (Swan, 1995) refers to the number of households in one family (Boehm & Mc Kenzie, 1982; Majid, 2010). It involves population calculation (Mankiw & Weil, 1989) which would affect the overall real estate market (Green *et al.*, 2005; Morrel, 2001; Pitkin & Myers, 1994).

Demography usually relates to property purchasing activities (Pyhrr *et al.*, 1999; Chiu & Ho, 2006; Fontenla & Gonzalez, 2009). Using demographic data, housing demand can be measured from time to time (Swan, 1995; Thomas & Malmberg, 2008; Megbolugbe, 1996; Woodward, 1991; Morrel, 2001; Pitkin & Myers, 1994; Ermisch, 1996; Barot, 2001) which slowly changes (Noor Yasmin & Muhd Zaimi, 2004; Fontenla & Gonzalez, 2009) within more than twenty years in the demographic cycle (Mankiw & Weil, 1989). Besides, the increasing growth in population, especially of adult, would significantly increase the demand for houses (Gin & Sandy, 1994). Under this situation, demography always becomes the main indicator in measuring the demand and property purchasing activities (Green & Malpezzi, 2005; Joint Center for Housing Studies, 2002 Holman, 2001; Mankiw & Weil, 1989; Megbolugbe, 1996) which involves a certain method and duration (Morrel, 2001).

Demographic changes would normally be presented by certain criteria that make them more functional and significant. These criteria influence buyers' behaviour (Schuler & Adair, 2003; Nayyab et al, 2011), especially the decision making process in selecting the right unit for their home (Majid, 2010; Lutfi, 2010; Suaid, 2012; Jain & Mandot , 2012). In addition, , the difference of buyers' behaviour would encourage buyers to purchase different unit which is the best for for their own need (National Association of Realtors, 2007; Majid, 2010; Ricaro et al., 2010). Therefore economist and policy maker have observed that demographic criteria namely age distribution, gender, marital status, qualification, occupation, marital status, number of households, educational level and annual income perform as main factors that give high impact on property purchasing activities (Jain & Mandot, 2012; Bujang et al, 2010). However Ariyawansa (2007) observed that all of these demographic criteria do not really influence housing market and property purchasing activities. Therefore it is so important for researchers to identify the definition and function of each demographic criterion, which have relations to the housing market.

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3.0 Demographic Criteria

Age becomes an important aspect in dealing with property criteria (Findsen, 2005). There are diverging preferences between the adult and older generation. Retired person would prefer to purchase a house with simple design affording movement flexibility inside the house. Hurtubia *et al* (2010) stated that age would help them identify the current lifecycle of the household such as young family and old couple. These would influence them to make different decisions in terms of their requirement. In other words, age could identify the number demand in housing market (Swan, 1995). According to Krainer (2005), people above 65 years old are reluctant to buy a house even if they can afford it. On the other hand, young people are more penchant to buying a property (Evan, 2004). Nevertheless, those under 30 years old less likely to commit themselves to purhasing property since many will not have reached their financial stability (Lutfi, 2010).

Ethnic grouping or race becomes one of the socio-economic aspects (Vaughan, 1976; Boehm & Mc Kenzie, 1982) that can differentiate based on country and colour of skin (Gabriel & Painter, 2003 Bajari & Kahn, 2005). In Malaysia each ethnic group such as Malay, Chiness and India has its own different culture and perspectives when it comes to buying a house. This demographic factor influences residential choice in terms of the selection of location (Hurtubia et al., 2010) and thus creates various situations in the property market (Gabriel & Painter, 2003; Bajari & Kahn, 2005). Therefore, race has been considered in determining the level of demand and property purchasing (Vaugan, 1976; Megbolugbe, 1996; Leppel, 2007; Bajari & Kahn, 2005).

Marital status effects the buyers' decision making process (Lutfi, 2010). Different buyers' marriage status such as single, married, single mother, single father will result in different preferences (Suaid, 2012). This will influence the individual's basic needs and restrict his capacity or budget to purchase housing units (Majid , 2010). Married people usually prefer to have their own house (Leppel, 2007; Fontenla & Gonzalez, 2009). However, Bourassa (1994) argues that young married people do not have intention to have their own house. At the same time old married people also refuse to buy the house caused by smaller household size (Morrel, 2001). Besides this, unmarried person intends to stay with his parents rather than move to another house (Bourassa, 1994). However the incidences of divorce among people contribute to growing needs for new houses among single parents (Schuler & Adair, 2003). This situation has suggested that marital status should be analysed to determine house purchasing decision by people (Boehm & Mc Kenzie, 1982; Mutchler & Krivo, 1989; Goodman, 1990; Megbolugbe, 1996; Gabriel & Painter, 2003; Lauridsen et al., 2009).

Hurtubia et al (2010) observe **household size** which could be measured by the number of people living in a residential unit. The formation of household size would encourage new demand for such property. Households with young children would prefer a house with simple design and with extra space for play (Majid, 2010). H**ousehold size** also determines the space needs of the family member in term of size and number of rooms (Majid, 2009; 2010, Suaid, 2012). Number of children in the household will contribute to the needs and preferences of house within a good location, accessibility, educational and recreation facilities (Hurtubia et al., 2010).

Employment becomes one of the household criteria (Megbolugbe *et al.*, 1991). Increasing number in employment would decrease the level of unemployment (Ermisch & Di Salvo, 1996). Employment is part of the property cycle (Edelstein & Tsang, 2007; Majid, 2010), which usually refer to the type of occupation that has been employed by the head of household (Vaugan, 1976; Arimah, 1992). A good employment would contribute to the financial strength for each household (Clark & Onaka, 1983; Rappaport, 2008), and would encourage the people to find new residential unit (Miron, 2004). Meanwhile, losing the employment would influence in home ownership (Johnson *et al.*, 2007). This situation will basically affect the level of demand for the property market within short and long term period (Erekson & Witte, 1979; Goodman, 1990; Schuler & Adair, 2003).

Meanwhile **education level** is also an indicator of buyer lifestyle. Higher education household had been criticised as the main group influencing the housing system (Barlow & Ozaki, 2003; Barlow *et al.* 2003).

Moreover, education also influences people to be more careful in buying a house (Fontenla & Gonzalez, 2009). Different levels of education among people would encourage them to demand different types of house (Lee, 2007; Hurtubia et al., 2010). Higher level of education may encourage people to buy expensive houses (Barber & Terrance, 2001; Schooley & Worden, (1999) whereas lower level of education level would decrease their intention to buy a house (Majid, 2010). The impact of education level on buying activities has been studied by previous researchers (King, 1976; Erekson & Witte, 1979; Ioannides & Rosenthal, 1994; Green & Hendershott, 1996; Manrique & Ojah, 2003; Gabriel & Painter, 2003; Plaut & Plaut, 2006; Leppel, 2007; Lauridsen e*t al.*, 2009). However Woodward (1991) & Morrel (2001) observe that increasing of education level would decrease the total number of potential buyers, within each ten years.

Bujang et al (2010) stated that income would influence people in buying a house. Level of income would influence the cycle of housing market (Schuler & Adair, 2003; Garcia & Hernandez, 2008; Martin, 1966) and increase purchasing power by the buyer (Wilhelmsson, 2008; Miron, 2004). Level of income would change from time to time and could be classified into certain classes such as high, medium and low income (Goodman, 1990). The choice of house type would be different based on the level of income which are related to their affordability (Hempel & Punj, 1999; Chiu & Ho, 2006). Usually married household intend to have high income as compared to unmarried people (Fontenla & Gonzalez, 2009). This situation had encouraged people to buy new property (Mayo, 1981; Mankiw & Weil, 1989; Bourassa, 1994; Green & Hendershott, 1996; Ermisch & Di Salvo, 1996; Borsch-Supan *et al.*, 2001; Gabriel & Painter, 2003; Turner & Lue, 2009). High income people would also prefer to buy high cost house (McCarthy, 1976; Borsch-Supan et al., 2001; Ariffin, 2010). Meanwhile low income people would have barrier to buy any of the houses (Rothenberg *et al*., 1991; Turner & Lue, 2009). However Poterba (1991) and Kamara (1994) argue that household income does not give much effect on the value of demand and buying decision. Beside, Kranz & Hon (2006) stated that the impact of these criteria for demand is low and could be ignored.

4.0 Research Methodology

This study involves a structured survey questionnaire, which consists of two parts namely demographic and property criteria. The demographic criteria cover eight elements: age, race, marital status, household size, employment, income and level of education. On the other hand, property criteria cover three main components comprising twenty sub-elements that relate to residential property. Component I represents property attribute (PA), followed by component II for Property View (PV) and Component III for Property surrounding (PS). Component of PA generate six sub-elements namely i) house price, ii) house type, iii) house finishing, iv) house design, v) age of the house property's and vi) property's title. PV's component is represented by i) exterior features of the house, ii) position of the house in the layout plan iii) size of built-up area iv) size of land area v) topography form vi) view of the housing area. Other sub-elements namely i) near the commercial area, ii) near to facilities and infrastructure, iii) near to education area, iv) near to work place, v) environmental quality, vi) security, vii) traffic congestion and viii) density have been allocated under PV. Two hundred respondents were selected to answer the questionnaire using random sampling technique. All of the respondents are from the state of Selangor, Malaysia. Chi-Square analysis was used to test whether these demographic criteria have

significantly influenced the property criteria. Eight variables in demographic criteria have been analysed using Chi-square Test, to see the significant value of twenty elements from property criteria. (Figure 1).

Figure 1: Impact of demographic criteria on property criteria

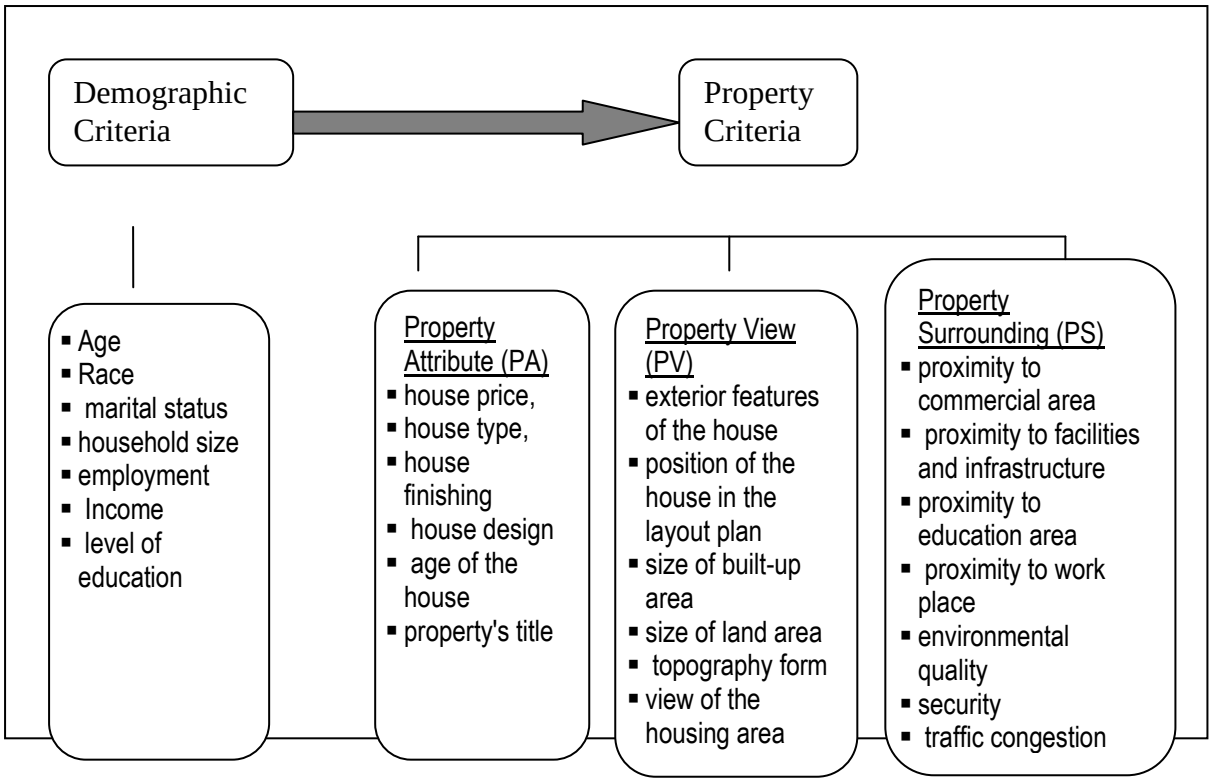


Table 1 shows the result of a descriptive analysis of the respondents' profile. Most of the respondents that have intention to buy a house fall in age between 20 to 39 years old. The analysis also shows that 91.5% of respondents are Malay and there is no respondent in a divorce situation under marital status criteria. In terms of the household size, 95% of respondents come from households of 3-6 persons. In terms of employemnt, 55.5% respondents work in the private sector while 33% work in public sector. About 40% of respondents are degree holders while 30% of SPM holder. Further, all respondents have income of RM 4,000.00 and below per month due to random sampling on selective group of responsents.

4.1 Significance of the Housing Attributes and House Features among Respondents

Table 2 shows the results of the relationship between the demographic criteria and property criteria based on the Chi-square test analysis. A *p* value of 0.10 is taken as the threshold for significance of relationship among the variables.

Table 1: A Crosstabulation of Respondents Profile

Background		**Frequency**		**Percentage (%)**	
Demographic Criteria	Element	Male	Female	Male	Female
Age	20 - 29 years old	74	84	37	42
	30 - 39 years old	21	21	10.5	10.5
	40-49 years old	0	0	0	0
	50-59 years old	0	0	0	0
	59 years old and above	0	0	0	0
Race	Malay	93	90	46.5	45
	Chinese	1	13	0.5	6.5
	India	1	2	0.5	1
	Other	0	0	0	0
Marital status	Single	68	67	34	33.5
	Married	27	38	13.5	19
	Divorce	0	0	0	0
Household size	Less or equal to 3 persons	25	19	12.5	9.5
	4 -6 person	67	79	33.5	39.5
	7 - 10 person	3	7	1.5	3.5
	More or equal to 11 persons	0	0	0	0
Employment	Government Sector	38	28	19	14
	Private Sector	49	62	24.5	31
	Self-employed	2	4	1	2
	Student	6	7	3	3.5
	Other	0	4	0	2
Income	< RM 2000	70	66	35	33
	RM 2001 - 4000	25	39	12.5	19.5
	RM4001-RM6000	0	0	0	0
	>RM6000	0	0	0	0
Education level	SPM	40	20	20	10
	STPM	14	21	7	10.5
	Diploma	9	16	4.5	8
	Degree	28	45	14	22.5
	Master	4	3	2	1.5

Demographic-Gender is statistically significant for four elements under component PA which are house price (0.057), House furnishing (0.000), House design (0.018) and Age of house (0.000). It is also statistically significant with Exterior features (0.005), View of housing area (0.048) and Topography form (0.031). Meanwhile four elements from component PS namely Environmental quality (0.007), security (0.042), traffic congestion (0.020) and density (0.008) are also statistically significant for the Demographic-Gender relationship.

Demographic-Age is statistically significant within the five elements of overall property criteria. They are the house type (0.056), house finishing (0.006) and Design of house (0.086) under the PA's component. Meanwhile element of near education area (0.011) and near workplace (0.036) which fall under component PS are also statistically significant with Demographic-Age relationship.

Apart from these, three elements from property criteria present significant level with **Demographic-Race**. Two of them come from component PS which is near to the commercial area (0.000) and environmental quality (0.014). Only Exterior features (0.094) under component PV is related to this demographic criteria and no element under component PA is statistically significant with this demographic criteria.

Demographic-Marital Status is statistically significant for twelve sub-components of the overall three components. Component PA refers to house price (0.092), house type (0.040) and house finishing (0.016). Under component PV only element view of the housing is not statistically significant as compared to the rest. It refers to Exterior features of the house (0.012), Position of the house on the layout plan (0.047), Size of built-up area (0.004), Size of land area (0.042) and Topography form (0.027). For PS component, four out of eight elements are statistically significant namely Proximity to commercial area (0.024), Proximity to education area (0.000), Proximity to workplace (0.088) and Environmental quality (0.028).

The result shows less significance between Demographic-Household size with property criteria. Only one of the elements, house type (0.075), is statistically significant under PA component related to demographic criteria.

Meanwhile result shows the highest numbers of total significant within thirteen significant levels between **Demographic-Employment** and property criteria. PA Component represented by House price (0.075), House type (0.000) and House finishing (0.006). Moreover, element Position of the house on the layout plan (0.014), Size of built-up area (0.001), Size of land area (0.000) and Topography form (0.016) from PV component shows significant value with this demographic criteria. Besides this the total number also increases from PS component which saw seven out of eight elements have significant value. It refers to Proximity to commercial area (0.013), Proximity to facilities and infrastructure (0.015), Proximity to education area (0.000,) Proximity to workplace (0.023), Environmental quality (0.000), Security in the housing area (0.001) and Density of the housing area (0.005).

However, **Demographic-Income** and demographic education just present three out of twenty from overall property criteria. Under PA component result has list down House type (0.030) and House Design-Architectural

house design (0.013). Meanwhile, Traffic congestion in the housing area (0.088) is also statistically significant under PS component.

Besides this, property criteria present **House Design- Architectural house design** (0.001) under PA component, Topography form (0.005) under PV component and Proximity to the education area (0.089) under component PS as an element that have significant with **Demographic –Education**.

Table 3 shows the components which are statistically significant between demographic and property criteria. **Demographic–employment** show the highest number of total significant signs (13) that appear between the demographic and property criteria. It follows with marital status (12) and gender (11). Meanwhile another demographic criteria just show the total number between 1 until 5 which are statistically significant. The results are simflified in ranking form as shown in Figure 2.

Table 4 shows the overall findings where demographic criteria are statistically significant in terms of relationship with property criteria. However, it has shown different significant levels in term of different components in property criteria. Under PS component, the highest number is represented by employment (7) and followed by marital status (4) and gender (4). In addition there is no statistical significance between PS and household size. PV component has been influenced by marital status (5) and followed by employment (4). However, it shows the highest number of non-significance between PV and three property criteria namely age, household size and income. Meanwhile PA component shows the highest value presented by gender (4) but no statistically significant with race.

The overall results (Table 3) show most of the respondents are very particular about property criteria during purchasing a house especially the house price, house type, house furnishing, house design (architectural house design), age of the house and property title. However property surroundings which involve the distance from subject property to another place such as a commercial area, facilities and infrastructure, education area and work place have always been considered by people who work in the public sector (33%) and private sector (55.5%) (Table 1) Besides, this property criterion has also been considered by both of single and married people. Meanwhile property view which measure by the exterior features of the house, the position of the house on the layout plan, size of built-up area and land area, view of the housing area and topography form, getting more attention from single people (67.5%) under demographic-marital status.

Figure 3 shows the frequency of components and elements under property criteria that is statistically significant with demographic criteria. It shows that type of house becomes the highest frequency that has always been considered by the buyer during decision making stage prior to purchasing a house. It follows by two elements such as environmental quality, distance from house to education area, topography form, design of the house and finishing inside the house unit.

Table 2: Significance of The Demographic Criteria Among Property Criteria

	Type of test	Asymp Sig (2-sided) -Chi-Square test							
No	Housing Attributes	Gender	Age	Races	Marital Status	House Hold Size	Employment	Income	Education
Property Attribute (PA)									
1	House price	0.057	0.344	0.870	0.092	0.532	0.075	0.829	0.282
2	House type	0.542	0.056	0.654	0.040	0.075	0.000	0.030	0.140
3	House finishing	0.000	0.006	0.919	0.016	0.197	0.006	0.184	0.100
4	House Design (Architectural house design)	0.018	0.086	0.158	0.138	0.681	0.155	0.013	0.001
5	Age of the house	0.000	0.770	0.897	0.541	0.155	0.720	0.612	0.163
6	Property's Title	0.263	0.632	0.670	0.724	0.323	0.364	0.365	0.756
Property View (PV)									
7	Exterior features of the house	0.005	0.412	0.094	0.012	0.315	0.175	0.553	0.157
8	Position of the house on the layout plan	0.153	0.714	0.705	0.047	0.316	0.014	0.109	0.634
9	Size of built-up area	0.684	0.127	0.964	0.004	0.332	0.001	0.410	0.545
10	Size of land area	0.708	0.115	0.265	0.042	0.326	0.000	0.519	0.125
11	View of the housing area	0.048	0.111	0.469	0.527	0.920	0.173	0.714	11.944
12	Topography form	0.031	0.926	0.906	0.027	0.367	0.016	0.418	0.005
Property Surrounding (PS)									
13	Proximity to commercial area	0.029	0.281	0.000	0.024	0.111	0.013	0.246	0.534
14	Proximity to facilities and infrastructure	0.416	0.121	0.262	0.867	0.216	0.015	0.611	0.518
15	Proximity to education area	0.130	0.011	0.417	0.000	0.776	0.000	0.265	0.089
16	Proximity to work place	0.744	0.036	0.709	0.088	0.667	0.023	0.161	0.590
17	Environmental quality	0.007	0.108	0.014	0.028	0.373	0.000	0.718	0.768
18	Security in the housing area	0.042	0.328	0.422	0.695	0.625	0.001	0.255	7.295
19	Traffic congestion in the housing area	0.020	0.354	0.275	0.193	0.190	0.562	0.088	12.129
20	Density of the housing area	0.008	0.272	0.348	0.218	0.320	0.005	0.607	27.448

Table 3 : Total of significant level between demographic criteria and property criteria

No	Housing Attributes	Gender	Age	Races	Marital Status	House-hold Size	Employ-ment	Income	Educa-tion	Total
Property Attribute (PA)										
1	House price	❖			❖		❖			3
2	House type		❖		❖	❖	❖	❖		5
3	House finishing	❖	❖		❖		❖			4
4	House Design (Architectural house design)	❖	❖					❖	❖	4 4
5	Age of the house	❖								1
6	Property's Title									0
Property View (PV)										
7	Exterior features of the house	❖		❖	❖					3
8	Position of the house on the layout plan				❖		❖			2
9	Size of built-up area				❖		❖			2
10	Size of land area				❖		❖			2
11	View of the housing area	❖		❖						2
12	Topography form	❖			❖		❖		❖	4
		❖			❖		❖		❖	4
Property Surrounding (PS)										
13	Proximity to commercial area			❖	❖		❖			3
14	Proximity to facilities and infrastructure						❖			1
15	Proximity to education area		❖		❖		❖		❖	
16	Proximity to work place		❖		❖		❖			3
17	Environmental quality	❖		❖	❖		❖			4
18	Security in the housing area	❖					❖			2
19	Traffic congestion in the housing area	❖						❖		2
20	Density of the housing area	❖					❖			2
Total significant		**11**	**5**	**4**	**12**	**1**	**13**	**3**	**3**	

Figure 2: The ranking of frequency for total number of significant between demographic criteria and property criteria

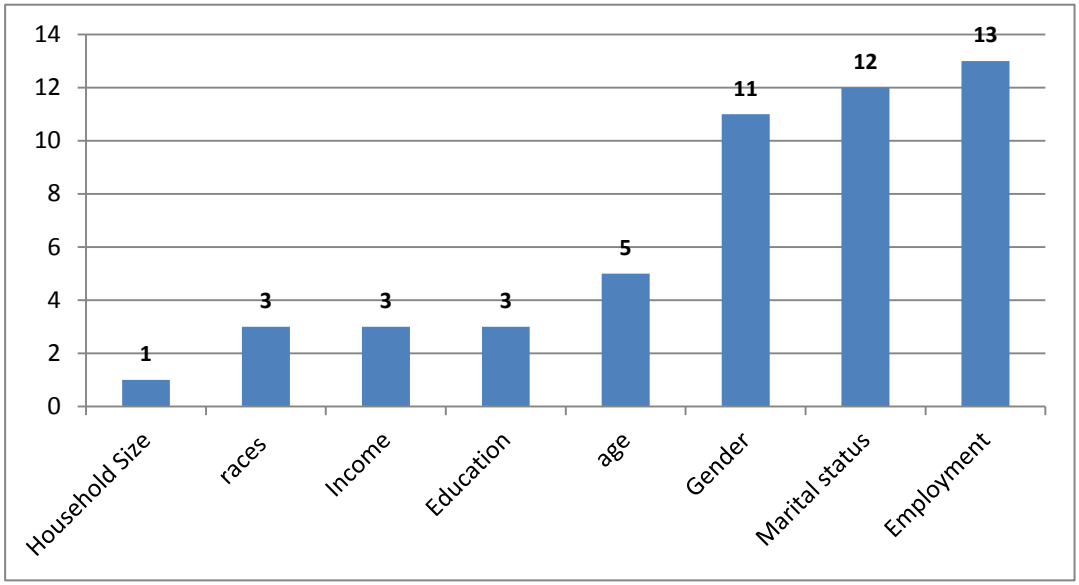
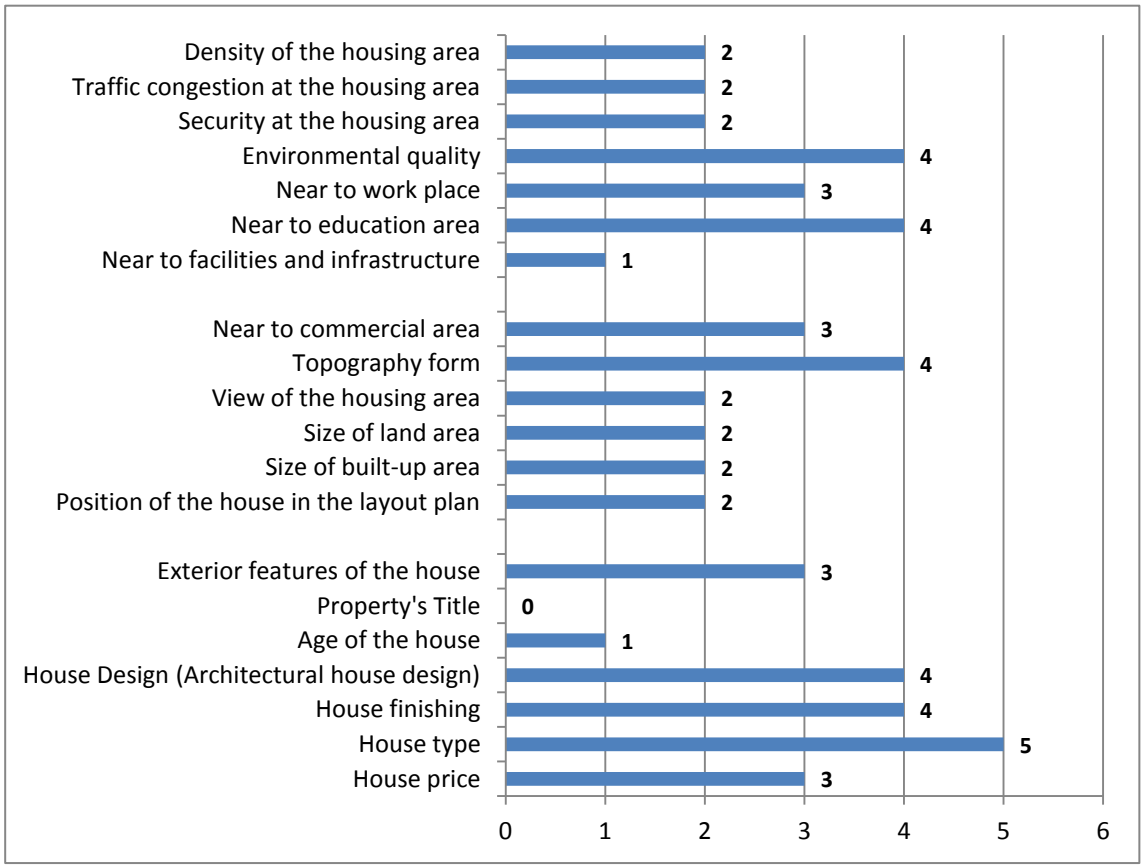


Table 4 : Summary for the number of demographic criteria which are statistically significant with three main components in property criteria

Component in Property Criteria	Gender	Age	Races	Marital Status	Household Size	Employment	Income	Education
Property Attribute	4	3	0	3	1	3	2	1
Property View	3	0	1	5	0	4	0	1
Property Surrounding	4	2	2	4	0	7	1	1

Figure 3: Components and elements of property criteria that is significant with demographic criteria.



5.0 Conclusion

This paper has highlighted that all of demographic aspects have their own impact to influence the buyer in purchasing the right and the best house for them. However, gender, marital status and employment are very important elements that should be considered in measuring the demand for houses in certain areas and location. The structure of these three components would influence the level of housing demand which contribute to the purchasing activities. Therefore any changes that relate to these demographic aspects would change the performance of purchasing activities. Besides that, it should be stressed by the developer to provide the best housing product within suitable quantity in the housing market.

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