SUSTAINABLE WASTE MANAGEMENT ACTIVITIES AMONG HOUSEHOLDS IN KUALA LUMPUR

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Abstract: The involvement of households in the recycling activity in the last decades has been perceived as an effective way to reduce the amount of solid wastes in the landfill areas as well as able to reuse the materials. This study is embarked in order to identify the level of recycling intentions among households at P.P.R Sri Pantai, Pantai Dalam. 125 households were employed a sample size and acted as respondents to answer the questionnaires. In terms of sampling technique, the present study employs a non-probability sampling which is convenient sampling techniques. The findings of this study found that the majority of the respondents scored high Mean for all the independent variables in this study, except the perceived policy effectiveness variable. It is hoped that this study will be able to supplement the information to the existing body of knowledge related to this topic or for academic purposes. Hence, it will give a contribution to the current and future students who learn about public administration. This study also attempts to contribute substantively to the empirical data related to households recycling behavioral intentions

Keywords: Recycling Intention, solid waste management, household, P.P.R Sri Pantai

Introduction

Waste management has been declared as one of the prominent environmental problems in many urban areas, especially in the ASEAN countries (Ngoc and Schnitzer, 2009; Salhofer, Obersteiner Schneider, Lebersorger, 2008; and Mohapatra, 2013). Management of municipal solid waste is an intricate problem in developing countries, especially in the larger urban centers (Matter, Dietschi and Zurbrugg, 2013; and Ojha, Reuben and Sharma, 2012) and it is observed that the issues of solid waste management in developing countries remain unsolved (Wahid Murad and Siwar, 2007). This situation is exacerbated as the amount of household solid waste has increased rapidly all over the world (Chen and Tung, 2010). Rapid increase in population and consumption has generated an abundance of solid waste in the landfill areas. In addition, rapid growth in the number of industrialization and modernization has resulted in the type of wastes becoming more complex and diverse (Mohamad Nasir, Chong, Zulina, Muhamad Awang, 2000).

In Malaysia, landfills have been accepted as the most common methods of managed waste disposal. In most cases, open dumping is being practiced and takes place at about 50% of the total landfills. Most of the landfills in Malaysia are crude dumping ground, thus cause pollution of natural resources and

various environmental problems such as health hazards, surface water and ground water contamination and odors (Mohd Idrus et al., 2008). Besides that, this phenomenon also brings negative impact to the tourism sector in the country (Lau, 2004). Based on the discussion above, it is believed that the current system of solid waste management practiced by Malaysian may tarnish the image of the country as the wastes generated are dumped in the landfill areas.

Although the Malaysian government has taken various measures to promote recycling activity among its citizens, but little has been achieved due to the lack of participation from households (Omran and Gebril, 2011). It was recently discovered that the Solid Waste Management at PPR Seri Pantai was at the severe level with at least six piles of rubbish there (Nur Nazlina, 2012). According to Wahid Murad and Siwar (2007), in Kuala Lumpur, the low-cost flat dwellers are always associated with the issue of solid waste disposal. Besides that, Wahid Murad and Siwar (2007) mentioned that it is generally believed that the poor or low-income groups have a tendency to degrade the environment by practicing improper and unsustainable methods of waste management. Therefore, the objective of the study is to ascertain the level of determinant factors that lead towards household recycling intentions at Flat PPR Sri Pantai, Pantai Dalam Kuala Lumpur

Literature Review

The involvement of households in the recycling activity in the last decades has been perceived as an effective way to reduce the amount of solid wastes in the landfill areas as well as able to reuse the materials (Bruvoll, Halvorsen and Nyborg, 2012). In realizing the importance of households in recycling activity, Dahlen et al. (2009) contend that it is advisable to encourage households in different parts of countries to engage in recycling activity by segregating up the unused materials. Among the unused materials that can be recycled include papers, bottles, plastic bags and cans (Davies, Foxall and Pallister, 2002).

One of the reasons why many countries intended to increase the amount of household recycling is because it was stated in the countries' policy goals (Halvorsen, 2012). This is explained by the fact that such practices may bring positive consequences towards the environment, health of society and the economic development of the country. In addition, it has been widely agreed that recycling is one of the solid waste management methods as it is able to minimise the cost of disposal, wastes transportation as well as ensuring the sustainable life spans of landfill areas (Suttibak and Nitivattananon, 2008). The majority of people believed that the primary reasons why people recycle is because of preserving the environment (Oxford Brookes, 1999).

In the light of the discussion above, it can be concluded that many countries all over the world are experiencing solid waste management problems as the population and the level of consumption among citizens are escalating from time to time. One of the reasons that lead to this problem is because the governments still use the old method of managing the solid wastes which is open dumping solid wastes at the landfill areas. It is believed that this method is no longer suitable for managing solid wastes as many cities around the world have limited land banks that are used for other needs such as housing.

Theoretical Underpinnings of the Study

The present study utilizes two theories which provide a general framework for the variables of the study. The theories include the theory of planned behavior which was developed by Ajzen (1991) and Altruistic behavior theory by Schwartz (1977).

Theory of Planned Behavior

Theory of Planned Behavior (TPB) has been widely used by previous scholars in determining the factors that influence people intentions to recycling. However, the scholars utilized this theory and

predicting the recycling intentions in the different settings. For example, Siti Nur Diyana and Kamisah (2010) employed TPB in determining recycling intention behavior among secondary school, Ramayah et al. (2012) among university students, Chan and Bishop (2013) among students, Chen and Tung (2010) among villagers, Cheung et al. (1999) among college students and Fielding et al. (2008) among the first year students. The majority of these scholars found that the constructs in the theory of planned behavior significantly influenced respondents' recycling intentions.

According to Ajzen (1991), the variables such as attitude, subjective norms and perceived behavioral control may influence people's intentions to perform certain behaviors. With respect to attitude, it can be construed as an individual evaluation about his or her approval or disapproval of certain behavior. In determining whether or not to perform a certain behavior, an individual will look at the consequence of the behavior (Park and Blenkinsopp, 2009). In the context of recycling, people will be more likely to participate in recycling behavior if they believe that such behavior will give a good impact to him or her and other persons.

Besides that, subjective norms refer to "the perceived social pressure to perform or not to perform the behavior (Ajzen, 1991, p. 188). The subjective norm depends on "the likelihood that important individuals around them approve or disapprove of performing a given behavior" (Ajzen, 1991, p. 195). An individual's decision whether to perform a specific behavior depends on others' decision whether to allow or not the specific action to be performed. Others here refer to the family members, neighbors, colleague, supervisor, and friends (Park and Blenkinsopp, 2009). In recycling, people will be more likely to take part in recycling activity if they believed that other people such as their family, friends and neighbors allows and encouraged them to perform it.

Meanwhile, perceived behavioral control refers "the perceived ease or difficulty of performing specific behavior" (Ajzen, 1991, p. 188). Ajzen (1991) stressed that an individual's intentions to perform a specific behavior depends on the availability of opportunities and resources that individuals have in order to perform that behavior. In recycling, Ramayah et al. (2012) categorized perceived behavior control into two which are convenience of available recycling infrastructure and cost of recycling. While Siddique et al. (2010) classified cost of recycling into several elements such as time available for recycling, space and ease of recycling. Hence, this theory is comprehensive as it encompasses the main elements in predicting the recycling behavioral intentions among people.

Theory of Altruistic Behavior

Several researchers, namely Davies, Foxall and Palister (2002), Hopper and McCarlnielsen (1991) and Thogersen (1996) employed Altruistic theory to explain recycling intentions behavior. Schwartz's (1977) explained that an individual is having altruistic behavior if he or she has a sense of responsibility towards something which can offer advantages to other persons. Besides that, Hopper and McCarlnielsen (1991) contend that individuals in altruistic characteristic do certain behavior for their self-satisfaction as they perceive that such behavior is worth doing rather than looking for money. From the explanation above, it is believed that an individual will perform an altruistic behavior only if he or she has an intention to provide benefits to other people as well as for self-satisfaction. In the context of recycling, a person is having altruistic behavior if he recycles unused materials with the hope that such behavior (recycling) will protect the environment.

Research Methodology

This study employs descriptive study and cross-sectional survey in order to identify the level of determinant factors that lead towards household's recycling intentions. The unit of analysis of this study is households who are living at PPR Sri Pantai, Pantai Dalam, Kuala Lumpur. The population of this study is all households at PPR Sri Pantai, Pantai Dalam. To date, the flat consists of 936 units of which 53 are not occupied. Therefore, only 883 units are occupied.

Tabachnick and Fidell (2007) provide a guideline for a researcher to determine the suitable sample size. They suggested that a researcher needs to take into consideration the number of independent variables in order to determine how many sample size that the study is required. Both of them outlined the suggested formula as follows: N > 50 + 8m. "m" here refers to the number of independent variables. Since this study consists only five independent variables, therefore, this study only required minimum of 90 respondents. However, according to Sekaran and Bougie (2010), they mentioned that Roscoe has proposed rules of thumb for determining sample size. The sample size is larger than 30 and less than 500 respondents are suitable for most research. Thus, this study employed 125 households at Flat PPR Sri Pantai to respondents to the questionnaires. This is because, 125 households are more than 90 respondents and it ranges within 30 and 500 respondents as suggested by Roscoe.

Besides that, this study employs previous studies' questionnaires to enhance validity and reliability of the measurement of the items. According to Sekaran and Bougie (2010), it is better to incorporate the previous studies' instruments that are reported to be good rather than developing researcher's own measurements. The questionnaires are adopted and adapted from previous researchers, namely Knussen et al. (2004); Tonglet et al. (2004); Ramayah et al. (2012); Siti Nur Diyana and Kamisah (2010); Ioannou (2013); Mannetti (2004); and Wan et al. (2014).

Findings

Two types of descriptive analysis are discussed in this section. It begins with profile of respondents that describes characteristic of the respondents. Then, responses across independent and dependent variables were provided in order to determine the level of determinant factors that lead towards household recycling intentions.

Profile of Respondents

Table 1.1 illustrates the profile of the respondents who participated in the survey. This study comprised of 125 respondents who live at Flat PPR Sri Pantai, Pantai Dalam Kuala Lumpur. The respondents were interviewed by using questionnaires as some of them were unable to read and not familiar with how to answer the questionnaire. Before the data collection took place, the respondents were informed and explained about the purpose of the study and the contributions of the study to the community.

The descriptive statistics indicate that the majority of respondents were female (73.6%) with male making up the remaining 26.4 percent. The largest age group was represented by the 40-60 years old range (52%), and most of them had *Sijil Pelajaran Malaysia* (SPM). The largest representation of respondents (66.8%) was married and most of them (43.2%) were housewives. In addition, most of the respondents' household monthly income (32%) was in the range between RM 1000 - RM 1900 and more than half of the respondents (53.6%) had 4-6 household members. With respect to ethnicity, the majority of them were Malays which accounted for 60 percent, followed by Indians (32.8%) and Chinese (7.2%). The composition of ethnics in this study was actually following the composition of the households at Flat PPR Sri Pantai, which are Malays (62.37%), Indians (30.33%) and Chinese (7.3%). As shown in Table 4.1, the majority of them (53.6) was occupied at the lower level and the remaining 42.4 percent of the upper level.

Table 1.1: Profile of Respondents (N = 125)

Variable	Frequencies	Percentage (%)
Gender		
Male	33	26.4
Female	92	73.6
Age		

17 and below	7	5.6
18-24	10	8
25-39	35	28
40-64	65	52
65 and above	8	6.4
Highest Education Level		
Primary School	32	25.6
PMR/SRP	31	24.8
SPM	47	37.6
STPM/Matriculation	2	1.6
University/College	7	5.6
No Formal Education	6	4.8
Marital Status		
Single	28	22.4
Married	86	66.8
Divorced	11	8.8
Occupational Sector		
Government	4	3.2
Private	30	24.0
Own Business	21	16.8
Housewife	54	43.2
Student	10	8.0
Pensioner	6	4.8
Total Monthly Household Income		
RM 500-999	36	28.8
RM 1000-1999	40	32.0
RM 2000-2999	33	26.4
RM 3000-3999	9	7.2
RM 4000-4999	6	4.8
RM 5000 and above	1	0.8
Total Household Members		
1-3	41	32.8
4-6	67	53.6
7-9	16	12.8
10 and above	1	0.8
Ethnicity		
Malay	75	60
Chinese	9	7.2
Indian	41	32.8
House level		
Lower floors (level 1-10)	67	53.6
Upper floors (level 11 and above)	58	46.4

Responses Across Independent and Dependent Variables

This section is discussed in order to ascertain the level of determinant factors that lead towards household recycling intentions at Flat PPR Sri Pantai, Pantai Dalam Kuala Lumpur. The descriptive statistics for independent variables (attitude, subjective norms, perceived behavioral control, moral norms and perceived policy effectiveness) as well as dependent variable (household recycling intentions) are presented in Table 1.2. Discussions on descriptive analyses are based on the responses obtained from the households. The respondents were asked about their knowledge and feeling towards recycling (attitude), whether their intentions to participate in recycling activity are influenced by the important persons around them such as family members, neighbours and friends (subjective norms),

the level of convenient in engaging in recycling activity (perceived behavioural control), the personal obligations towards recycling (moral norms), perceived policy effectiveness and their likelihood to participate in recycling activity.

From Table 1.2, it can be observed that, in general, except for perceived policy effectiveness, most of the respondents agreed that they have a positive attitude towards recycling, subjective norms, perceived behavioural control, moral norms and recycling intentions. Specifically, the majority of the respondents agreed that recycling is good, help to protect the environment as well as preserves the natural resources. In other words, the respondents possessed positive attitudes towards recycling and their awareness about the advantages of recycling for the country. An interesting observation can be made in this analysis, whereby attitude scores the highest mean ($\bar{x}$ = 1.96, SD = 0.196) among the independent variables.

Besides that, most of respondents agreed that they have slightly high subjective norms ($\bar{x}$ = 1.65, SD = 0.476). In other words, they viewed that most people believe they should do with recycling. People here refer to the persons that they believed very important to them such as friends, family members and neighbours. The respondents agreed that their friends, family members as well as their neighbours encouraged them to recycle.

In terms of perceived behavioural control, the majority of the respondents agreed that recycling is a convenient thing to do ($\bar{x}$ = 1.80, SD = 0.395). The respondents agreed that they have plenty of opportunities to recycle and they are aware where to bring the recyclable wastes for recycling purposes. In addition, the majority of them believed that they know what items can be recycled. Besides that, table 1.2 depicts that majority of the respondents agreed that they have positive moral norms towards recycling ($\bar{x}$ = 1.76, SD = 0.423). They felt guilty if they did not recycle their household wastes and they felt that they should not waste anything if it could be used again. They also felt that it will be against their principles if they do not recycle their households waste and they have a strong interest in health and well-being of the community they live.

It is worth mentioning that most of the respondents have a mixed feeling with regards to the effectiveness of government policy on recycling ($\bar{x}$ = 1.55, SD = 0.499). In other words, some respondents might perceive that the government policy is effective in encouraging household to participate in recycling activity and some of them might perceive contrariwise. This could be due to some respondents disagreed with plastic bag levy that has imposed on them. Besides that, some respondents disagreed that the government has provided a sufficient waste separation bins to facilitate recycling. Although some respondents agreed that the environmental programs organised by the government are effective in arousing environmental awareness among people, yet, some respondents disagreed with that statement. It is believed that the government policy is less sufficient in encouraging household at PPR Sri Pantai to participate in recycling activity.

As mentioned earlier, household recycling intention is the dependent variable in this study. It is measured to know the likelihood or the probability of the household to take part in recycling activity. Table1.2 illustrates that the majority of respondents agreed that they have high intentions in recycling activity ($\bar{x}$ = 1.82, SD = 0.382). As this section only discusses the descriptive analysis and general observation of the study, hence, further analysis in multiple regression analysis will discuss about the relationship between these independent variables and the dependent variable.

Table 1.2 Descriptive Statistic for Scale Variables

Variables	N	Min	Max	Mean ($\bar{x}$)	SD
Attitude	125	1	2	1.96	0.196
Subjective Norms	125	1	2	1.65	0.476
Perceived Behavioural Control	125	1	2	1.80	0.395
Moral Norms	125	1	2	1.76	0.423

Perceived Policy Effectiveness	125	1	2	1.55	0.499
Recycling Intentions	125	1	2	1.82	0.382

Note: 1=Disagree, 2=Agree

Discussion

Attitude

In this study, attitude refers to household's favourable or unfavourable evaluation of recycling. The household is asked whether they have positive or negative feelings about performing recycling. In measuring the level of attitude, the mean scores were recoded. The mean scores that are closer to 2 denotes "agree" while the mean scores that are closer to 1 denotes "disagree". The descriptive analysis of this study found that the majority households scored high mean ($\bar{x}$= 1.96, SD = 0.196) on the attitude. It can be construed that the mean score is closer to 2. In other words, the majority households have a positive feeling towards recycling.

Specifically, the majority households at Flat PPR Sri Pantai believe that recycling is a good thing to do, useful, sensible, it is a responsibility, positive feelings towards recycling, pleasant, save energy, protect the environment, a good idea and preserve natural resources. Among these reasons, the main reason the households have a positive attitude towards recycling is they believe that recycling can protect the environment. This finding is in line with the study carried out by Wahid Murad and Siwar (2007) and Ewing (2001). In the Wahid Murad and Siwar (2007) study, it was found that the majority of the residents at low-cost housing at Datuk Keramat have high recycling intention is because they believe that recycling can protect the environment. It is further highlighted by Martchek (2000), who contends that recycling is indeed important to environmental protection (Martchek, 2000; Ewing, 2001; and Halvorsen, 2010). Apart from protecting the environment, the qualitative finding of this study found that the households have a positive attitude towards recycling because they can earn a supplementary income to finance their daily lives (Halvorsen, 2010).

Based on the explanation given by the head of household, it is believed that the recycling activity not only can protect the environment, but it is also can generate household income. This finding is parallel with the findings of the study by Wahid Murad and Siwar (2008). In their study, it was found that the majority of the low-cost housing residents at Jinjang Utara, Sentul, and Datuk Keramat have a positive attitude towards recycling because they believe that they can receive payment for materials that they have recycled. It is concluded that households have a positive attitude towards recycling because they realized that recycling can protect the environment and generate household income.

Subjective Norms

Subjective norms refer to a concerned with perceived social pressures from significant others to perform the behaviour (White et al., 2009). This study finds that, the majority of respondents have come into consensus that subjective norms ($\bar{x}$ = 1.65, SD = 0.476) or social pressures encourage them to recycle. The household at Flat PPR Sri Pantai believe that friends, neighbours and family members approve and encourage them to recycle their household wastes.

According to White et al. (2009), subjective norms will be more important for those individuals with a strong sense of collective self. In other words, the cohesive household members will be having high subjective norms as they will encourage other household members to recycle. Besides that, subjective norms also are found to be crucial in several studies. For example, recycling intentions are encouraged by household members or friends or neighbors (Ewing, 2001 and Taylor & Todd, 1995), block-leader (Hopper & Nielsen, 1991), and peer support (Schultz et al., 1995).

Meanwhile, Ewing (2001) in his study found that the important persons such as friends and neighbours influence only household to recycle newspapers and cardboard. In addition, Ewing (2001) in his study reveals that, except the single parents who are living alone, it is about half of the

respondents agreed that their recycling activity was influenced by the opinions of household members. Meanwhile, McCullough and Cunningham (2010) have carried out a study among youth during a weekend-long youth baseball tournament The findings revealed that social pressures in a social setting outside the home (i.e. attending a sporting event) can lead to stronger recycling intentions.

Perceived Behavioural Control

The descriptive analysis of this study finds that the majority of the households have high perceived behavioural control on recycling ($\bar{x}$=1.80, SD=0.395). Perceived behavioural control refers to an ability of an individual to perform a specific behaviour (Goh et al., 2013 and Klockner and Oppedal, 2010) or the individual perceive convenience to perform specific behaviour (Ramayah et al., 2012).

Perceived behavioural control is typically operationalised by asking respondents directly how much control they have over the behaviour of interest, and how easy or difficult performance of the behaviour is likely to be (Tonglet et al., 2004). The highest mean scored by household is *"I know what items can be recycled"* , followed by *"I know where to take my household wastes for recycling"* and *"I know how to recycle my household wastes"*. Based on this finding, it is believed that the majority of the households believes it is convenient to recycle their household wastes. This is because, they are aware the items that can be recycled such as papers, tins, bottles and so on. Besides that, they feel convenient to recycle because they know where to bring the recyclable materials.

In the light of the discussion above, it is believed that the households at Flat PPR Sri Pantai have knowledge on what material to be recycled and where to place the recyclable wastes. According to Tonglet et al. (2004) and Kraft et al. (2005), a person's perceived behavioural control was influenced by perception of factors such as knowledge, skills and abilities, and the opportunity to recycle. Hence, the majority households at Flat PPR Sri Pantai have knowledge and the opportunity to recycle their household wastes.

Moral Obligation

According to Tonglet et al. (2004) and Kaiser (2006), moral norms refer to the personal beliefs about the moral correctness or incorrectness of committing a specific behaviour. The descriptive analysis of this study found that the majority households have a quite high moral obligation towards recycling ($\bar{x}$= 1.76, SD= 0.423). In other words, the majority of the household believes that recycling activity is morally correct to perform.

The majority households feel that they should not waste anything if it could be used again. Besides that, they have a strong interest in the health of and well-being of the community. In addition, they feel that everyone should take the responsibility to recycle household wastes. In the light of this, it shows that the households at Flat PPR Sri Pantai have a sense of moral obligation with regards to recycling their household wastes.

With respect to the household concern of protecting the health of the community, this finding is in line with the finding of the study embarked by Wahid Murad and Siwar (2007). In addition, according to Chen and Tung (2009), waste recycling is a behavior involving elements of personal morality and social responsibility. They further contend that the individuals will have a moral norm when they perceive the activity like recycling is a right thing to do as it brings good outcome to the environment and to themselves. It is supported by Tonglet et al. (2004), who mentioned that recycling of household wastes is a behaviour that consists elements of personal morality and social responsibility.

Furthermore, descriptive analysis of this study found that the households scored positive attitudes and moral norms on recycling. Manstead (2000) highlighted that it is common for individuals to hold positive attitudes and moral norms simultaneously. In the context of this study, the households at Flat PPR Sri Pantai have positive attitudes towards recycling because they would like to protect the

environment and generate income. Besides that, the households also have positive moral norms whereby they believe that they should not waste anything if it could be used again, they want to recycle because they want to protect the community members' health, and it is their responsibility to recycle. In addition, respondents who are concerned with the moral aspects need to recycle more in order to obtain the same level of self-respect and good conscience, compared with respondents who are not concerned equally (Halvorsen, 2010).

Perceived Policy Effectiveness

According to Wan et al. (2014), the perceived policy effectiveness refers to an individual's favourable or unfavourable evaluation on the clarity, adequacy and facilitation of policy measures (e.g. sufficiency of waste separation bins, clarity of guidelines and promotion, etc.). The descriptive analysis of this study found that the majority households scored the perceived policy effectiveness as moderate ($\bar{x}$=1.55, SD=0.499).

In the light of the explanations above, it can be concluded that one of the reasons why the households perceive policy related to recycle (perceived policy effectiveness) as moderate is because there is no recycle bins located at the Flat PPR Sri Pantai. It is believed that, if the authorities provide recycle bin, it will encourage more households to recycle their household wastes. An effective policy measure increases attractiveness of pro-environmental behaviour (Steg and Vlek, 2009) and it is a "carrots, sticks, and sermons" approach (Vedung, 1998). Schneider and Ingram (1990) suggested that policy measures serve as motivational devices to change people's behaviour. The policies that increase the attractiveness of pro-environmental behaviour is believed to be more effective and acceptable than policies aimed at decreasing the attractiveness of environmentally harmful behaviour (Steg et al., 2006). Public authorities can shape people's behaviour by applying these policy tools, e.g. provision of incentives, promotion and education, establishing convenient and supporting facilities (Wan and Shen, 2013).

Household Recycling Intentions

Behavioural intentions refer to the likelihood of a person(s) to engage in certain behaviour (Tan and Yeap, 2011). The descriptive finding of this study found that the majority households have high recycling intentions ($\bar{x}$=1.82, SD=0.382). In other words, the majority of households at Flat PPR Sri Pantai claimed that they will recycle their household wastes in the future.

The finding of this study parallels the study by Wahid Murad and Siwar (2007). The findings of the study show that the urban poor and low-income communities have been proved to behave in ways that are consistent with and conducive to environmentally friendly solid waste management (Wahid Murad and Siwar, 2007). Besides that, low-income groups such as squatters and low-cost flat dwellers usually separate and collect recyclables (e.g., such as bottles, plastics, newspapers, aluminium cans) with a view to earn extra income (Wahid Murad and Siwar, 2007).

In addition, the households at Flat PPR Sri Pantai have intentions to recycle their household wastes is because they have been influenced by their family members, neighbours and friends (subjective norms) and they believe that it is their responsibility to recycle (moral norms). These evidences can be seen in the second research objective of this study whereby these factors have significantly influenced households recycling intentions.

Conclusion

Findings of this study found that the majority of the respondents scored high Mean for all the independent variables in this study, except the perceived policy effectiveness variable. As discussed earlier, the level of recycling intentions among households at Flat PPR Sri Pantai, Pantai Dalam is high ($\bar{x}$=1.82, SD= 0.382). In other words, the majority residents are willing to take part in recycling activity in the future. This is because the respondents are considered as low cost housing residents and some of them are retired, unemployed, single mother and only earned low salary. Hence, recycling is becoming one of their sources of income. Besides that, the study shows that the "Attitude" (one of independent variables) scored the highest Mean. This is because the households believed that recycling brings positive outcomes to the environment and the people. Martchek (2000) contends that recycling is indeed important to environmental protection (Martchek, 2000; Ewing, 2001; and Halvorsen, 2010) and people can earn a supplementary income to finance their daily lives (Halvorsen, 2010). It is hoped that this study will be able to supplement the information to the existing body of knowledge related to this topic or for academic purposes. This study also attempts to contribute substantively to the empirical data related to households recycling behavioural intentions.

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