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## **Intention to Practice Reduce, Reuse & Recycle (3R) Among Expatriates Working in Malaysia**

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### **Abstract**

Malaysia continues to attract expatriates due to its economic conduciveness, hence the increasing number of expatriates do play a role in the recycling targets set by the Government to be achieved by year 2020. Therefore, it is important to understand expatriates behaviour with regards to green practices such as the intention to practice 3R. This study was conducted on 187 expatriates from 25 nationalities, concentrated in the Klang Valley. The results showed that green attitude and green practice consequences had positive relationships with the intention to practice 3R among expatriates working in Malaysia. Subjective norms and perceived control behaviour, on the other hand, was found to be insignificant. Results of this study provided further understanding of expatriates' intention to practice 3R and what influence them to do so. Subsequent policy and theoretical implications are discussed in the paper.

**Keywords:** Expatriates, Malaysia, Green, Recycling, Intention, Waste Management

### **Introduction**

Over the last decade, waste generation has increased tremendously due to improved living standards, rapid economic growth and industrialization in big cities (Joma, Baba, & Sunoko, 2015). In Malaysia, the total solid waste generated increased significantly from 13,069 tons per day in year 1996 to 22,283 tons per day in year 2009 (Moh & Abd Manaf, 2014).

The concept of 3R (Reduce, Reuse, Recycle) for solid waste management (SWM) is not new and has been in Malaysia for a very long time. The 3R model approach is used to manage waste that has been produced as an alternative of directly disposing in landfills. A study done by Moh & Abd Manaf, (2014) found that the 3R concept is necessary as it will help to reduce landfills lifespan in Malaysia, as compared to using incinerators, which is a costly method.

The Malaysian government is not only responsible to educate and encourage its citizens to practice 3R, but also other foreign nationalities who are in Malaysia, including expatriates. According to Tan & Ho, (2014) statistics from Immigration Department of Malaysia shows that there are a total of 61,113 expatriates applied for employment pass to work in Malaysia in year 2012. Furthermore, according to Malaysia's Department of Immigration, in year 2013 alone there were 90,000 professional working expatriates residing in Malaysia while others with different types of visa such as the dependents could be close to 200,000 individuals (Pinto, 2014). The latest data obtained from Malaysia's Department of Immigration shows that there are a total of 164,091 active expatriates in the country as of 31<sup>st</sup> December 2016 (Edmund, March, 2017). According to MDEC, the number of Knowledge Workers in the ICT Sector has been on an increasing trend in Malaysia whereby the total from year 2012 – 2015 are shown in Table 1 as follows:

Year	2012	2013	2014	2015
Number of MSC Companies	3,167	3,403	3,632	3,881
Total Jobs (Knowledge Workers)	128,850	138,071	147,568	158,549
Total Foreign Knowledge Workers	13,056	17,283	19,074	21,602

**Table 1 Number of Foreign Knowledge Workers in Malaysia (2012-2015)**

Source: MSC Malaysia Directory (2016)

The increase in the number of employment shows the growing interest of expatriates in choosing Malaysia as a work destination. Therefore, the influx of expatriates and the crucial need for the government to implement its policies on 3R waste management strategies will be studied through the expanded Theory of Planned Behaviour (TPB), as suggested by Tih & Zainol, (2012), whereby future research could examine other behavioural intention measures or actual behaviours.

This study would be able to gauge the intention level of the expatriates working in private sector towards implementing the 3R waste management strategies, in line with the Government's aspiration. The government and private sector could better understand the intentions of expatriates and provide a better guideline, such as better recycling schemes and communication campaigns, as mentioned by Ioannou et al., (2013) in order to meet the intended outcomes in implementing national waste reduction strategies. This is important since the influx of expatriates might affect the Government's long term plans in effective waste management.

This study will also provide an understanding on the factors that drive the intention to perform 3R strategies by expatriates, which will also be useful to companies in implementing policies at

firm level. The TPB model is also useful in researching recycling topics and provide useful information to relevant authorities in designing better policies and motivating people to participate in recycling programmes (Goh et al., 2012).

Furthermore, the use of an extended TPB by introducing new variables is extremely useful when studying the recycling intentions of households (Ioannou et al., 2013). This is supported by Han, Hsu, & Sheu, (2010) whereby TPB theory is useful in the prediction of customer intentions, particularly in choosing a green hotel. Other recycling behaviour and attitudes were studied by Omran, Mahmood, & Abdul Aziz (2009) and Goh et. al., (2012) on households in Malaysia without specifically addressing expatriates. In this study, 'expatriates' are defined as people working in key posts (top managerial level), executive posts (professional and middle managerial post) and non-executive posts (highly skilled) (Expatriates, 2016). This is due to the expatriate managers' ability to motivate and influence workers in integrating environmental issues to a greater extent in their daily lives (Boiral, Talbot, & Paillé, 2015).

### **Review of Literature and Hypothesis Development**

The term 3R is an acronym for Reduce, Reuse & Recycle, whereby to reduce means to use less; to reuse is to use something again instead of throwing it away or sending it off to a recycling company; and to recycle is to turn items into new objects instead of throwing them in the trash (Kivi, 2011). According to Kivi (2011), recycling centres melt down cans, bottles and other items to create new materials in order to manufacture new products.

The 3R concept is an expansion of recycling, which includes reduce and reuse. As such, it is important to note that according to Bamberg, Ajzen, & Schmidt, (2003), the TPB model may be affected to changes in relation to the cognitive foundation of intentions and behaviours as new information are introduced to the model. The results from a study on intention to recycle by Mannetti, Pierro, & Livi, (2004), also points that differentiated collection and refuse disposal could gain more coverage if it is linked with an elite or prestigious behaviour, with an emphasis on the identity of pro-environmental behaviour. 3R is also an approach intended towards the improvement and sustainability of the overall waste management system (Agamuthu et al., 2011).

The concept of 'green' is referred to any product, service or behaviour that strives to reduce negative environmental impact such as recycling, using biodegradable products, purchasing energy saving products, participating in environment concerned activities, minimizing waste or any other related matters that shows sensitivity towards the environment (Schubert, 2008). According to Ajzen, (1991), attitude towards a behaviour refers to the degree of likelihood of either being positive or negative in relation to a behavioural related question imposed towards the person. As mentioned by Chen, (2014), attitude refers to a person's favourable or unfavourable assessment of a certain behaviour. Therefore, the combination of both terms that makes up the term 'green attitude' refers to a certain behaviour that reflects a person's concern on environmental related matters, with a tendency of being favourable or unfavourable towards the behavioural question imposed on them.

The term subjective norms reflects on the perceived pressure imposed by society on one's intention to either perform or not to perform a specific behaviour (Ajzen, 1991). Subjective norms also makes an independent contribution as a variable towards determining its relation with intention (Ajzen, 1991). Hage, Söderholm, & Berglund, (2009) mentioned that "social norm is enforced by explicit approval or disapproval from others". Furthermore, according to Ajzen, (1991), a stronger attitude, subjective norms and greater perceived behavioural control may lead to a stronger intention to perform a certain behaviour.

According to Ajzen, (1991), perceived behavioural control (PBC) is the perception of difficulties in performing a behaviour. Ajzen, (1991) also suggested that PBC, when combined with behavioural action can be used to predict behaviour. However, it may not be applicable or realistic when there is a change or unfamiliarity in situation, lack of information on the behaviour or lack of resources since it may influence a different result towards the intended behaviour (Ajzen, 1991). It is also a matter of personal belief as to how easy or difficult it would be in performing a behaviour, which would lead to an outcome, as pointed out by (Godin & Kok, 1996). Also, as mentioned by Ajzen, (2005), a person that has a higher degree of PBC will have the likelihood of higher intention towards the behaviour.

Green practice consequences refers to a person's knowledge on the outcome of his or her engagement in a green related behaviour (Tih & Zainol, 2012). It is important to note that although the TPB model is a good model to predict behaviour, it is still based on the behavioural intentions and not the actual behaviour, which could be done through observations or other personal or self-written records (Mannetti et al., 2004). According to Tonglet, Phillips, & Read, (2004) the inclusion of consequences, which is a significant cognitive factor that deals with the knowledge of outcomes could be added to gain better insights on its effects towards recycling behaviour.

### **The Relationship between Green Attitude and Intention to Practice 3R**

According to a study done by Chen, (2014), environmental attitudes are also a determinant towards customers' intention to stay at environmentally friendly hotels, and may even be willing to pay more for the environment related cause. In terms of green related studies, attitudes also showed to have a positive relationship towards dining intentions in green restaurants (Schubert, 2008). A research by Tih & Zainol, (2012) also confirmed that green attitude has a significant relationship towards intention to recycle. Therefore, it can be hypothesized that:

Hypothesis 1: Green Attitude has a significant positive relationship with Intention to Reduce, Reuse & Recycle (3R).

### **The Relationship between Subjective Norms and Intention to Practice 3R**

When a person perceives that he may be observed by important people surrounding him, who think that certain behaviour and actions should be adopted, then the person stands a high chance to comply his attitude towards the behaviour (Park & Ha, 2014). The results of a research by Park & Ha (2014) pointed out that subjective norms also promotes recycling intention, especially when social expectation is being communicated. Another study by Tih & Zainol, (2012) also showed

that subjective norms had a positive relationship towards recycling intention among households in Malaysia. However, this was not the case in a study done by Hage et al., (2009), whereby household recyclers in Sweden were found not to be influenced by other people, which includes family and friends.

In the case of expatriates in Malaysia, there is a lack of published journal articles or reports indicating their behaviour and attitudes, specifically in the area of recycling or 3R practice. According to a study by Okpara & Kabongo (2010), huge number of expatriates need to adjust themselves when assigned to a foreign country, or else they might face repatriation. Expatriates do need to adjust themselves when assigned to a particular country (Black et. al 1991). Therefore, it is important for expatriates to get support from the society and peers in order to adjust themselves better especially in terms of socio-culture, which is also describe as the ability to 'fit in' when assigned to a particular country (Ward & Kennedy 1992). Hence, they might adjust their current lifestyle and behaviour to suit the Malaysian culture and adapt to the Malaysian lifestyle. Therefore, it could be hypothesized that:

Hypothesis 2: Subjective norms has a significant positive relationship with Intention to Reduce, Reuse & Recycle (3R).

#### **The Relationship between Perceived Behavioural Control and Intention to Practice 3R**

In a study on recycling behaviour among Italians, PBC also proved to be the most important predictor of intentions (Mannetti et al., 2004). The relationship between PBC and intention is also supported by a study done by Park & Ha, (2014) whereby the findings show that recycling intention is positively related to attitude, PBC and personal norms.

In a study done by Begum et al. (2009), it was found that the attitude and behaviours of contractors on waste management differ according to the size of the contractors. This is an indication that different level of resources possessed by the contractors may have influenced the outcome of attitudes and behaviours. According to Omran A, Mahmood A & Abdul Aziz H, (2009), a study on households in Malaysia showed that although there was awareness to recycle, they were not practicing it due to the lack of visibility of recycling centres and incentives. Therefore, lack of resources could be one of the factors that hinders the recycling activities although Malaysian households are fully aware about the need and benefits of recycling.

This study propose that expatriates in Malaysia would also be influenced by the amount of resources that is available around them. Their intention to practice 3R would increase if resources are available, and vice versa. Hence, it is hypothesized that:

Hypothesis 3: Perceived Behavioural Control has a significant positive relationship with Intention to Reduce, Reuse & Recycle (3R).

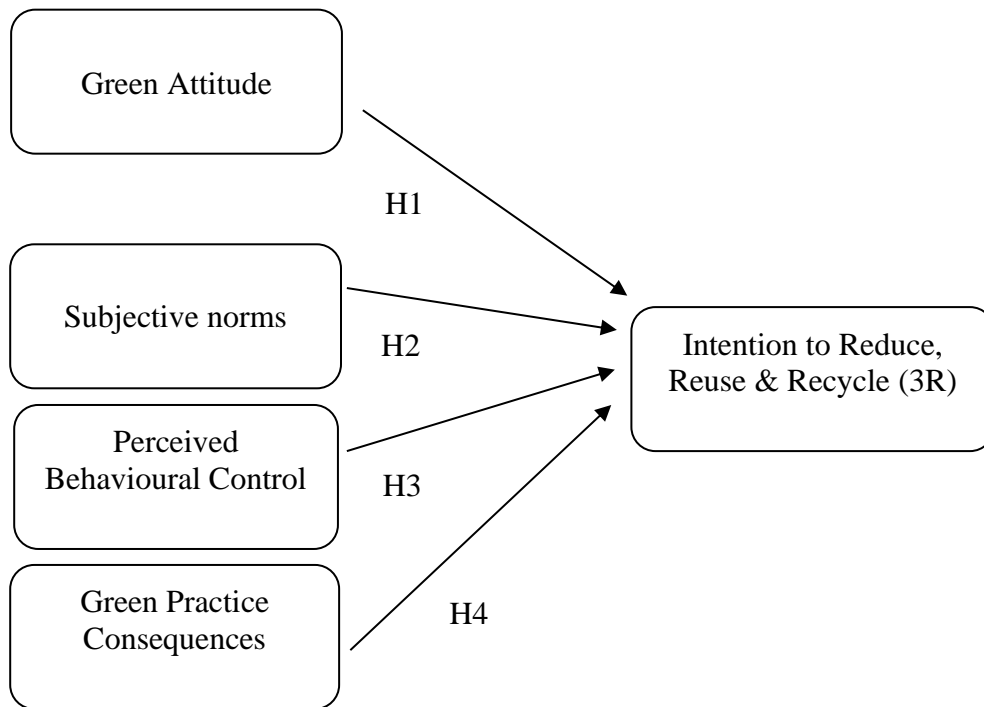
#### **The Relationship between Green Practice Consequences and Intention to Practice 3R**

In a research conducted by Tih & Zainol, (2012), it was found that green practice consequences had a positive result towards the intention to engage in recycling activities. Other past research

on green related studies has also confirmed that green practice consequences has a significant direct relationship with intention (Tonglet et al., 2004). At the organizational level, more and more companies are starting to embrace the green concept and devise new strategies, as it faces issues regarding sustainability, especially if its products or services are related towards the environmental issues (Smith & Perks, n.d). In the context of expatriates working in Malaysia, since many companies are more aware of the need to care for environmental sustainability, this might influence expatriates working here to adapt that green practices would yield good results from the practices of sustainable waste management such as practicing 3R strategies. Therefore, it could be hypothesized that:

Hypothesis 4: Green Practice Consequences has a significant positive relationship with Intention to Reduce, Reuse & Recycle (3R).

Figure 1 below shows the variables of the study, based on the Theory of Planned Behaviour (TPB), adapted from the study of Tih & Zainol (2012) as follows:



**Figure 1: Factors Affecting the Intention of Expatriates to Reduce, Reuse & Recycle (3R).**  
Adapted from Tih & Zainol (2012)

## Methodology

### Research Design

This study was conducted using a quantitative research design, whereby a relationship between the independent variables and the dependent variables will be established using statistical analysis (Saunders, Lewis, & Thornhill, 2012). The results were analysed using multiple regression analysis using SPSS software.

### Respondents

The expatriates involved are mainly in the upper, middle and lower executive and management level, who are currently working and living in Malaysia. The companies and organizations chosen are located in Klang Valley, since the concentration of expatriates are more in this area. Judgemental sampling method was used to approach the expatriates who are working for various companies and organizations dealing with sectors such as Information Technology (IT), International Banking, Manufacturing, Education, Event Management, Consultancy and Private Business Owners. The reason expatriates are chosen in this study and not the lower level foreign employees are due to the reasoning that managerial level employees are able to motivate and integrate environmental practices to a greater extent among workers in their daily activities (Boiral et al., 2015).



Out of the 230 distributed questionnaires, 210 were returned to the researcher with 187 or 89.04% were valid and could be used to perform data analysis. The balance 23 questionnaire or 10.96% could not be utilized due to several reasons such as incomplete questionnaires and missing information.

### Measurement Items

The questionnaires contained three (3) sections. Section A contained four (4) questions, which collected general information pertaining to the respondents behaviour. Section B had nineteen (19) questions, which collected opinions based on the variables contained in this research. This was done using a 5-point Likert scale whereby 1 indicated Strongly Disagree and 5 indicated Strongly Agree. Finally, Section C contained five (5) questions, which was useful to collect demographic information of the respondents. Since the measurement scales were adapted from Tih & Zainol, (2012), with modifications to certain questions, it is also important to note that the original 6-Point Likert Scale was modified to a 5-Point Likert Scale to provide a neutral mid-point for the respondents in filling up the questionnaire.

## Results

### Demographic Analysis

The demographics used in the questionnaire were age, gender, marital status, nationality, number of years working in Malaysia and educational level. The results of the demographic profile of the 187 respondents are presented in Table 2.

	Frequency (n)	Percentage (%)
<b>Gender</b>		
Male	118	63.1
Female	69	36.9
<b>Age</b>		
21-30 years old	61	32.6
31-40 years old	69	36.9
41-50 years old	47	25.1
Above 50 years old	10	5.3
<b>Nationality</b>		
Singaporean	26	13.9
Indian	18	9.6
Filipino	14	7.5
Nigerian	14	7.5
American	11	5.9
British	10	5.3
Iranian	10	5.3
Chinese	10	5.3
Bangladeshi	9	4.8
Indonesian	9	4.8
Syrian	9	4.8
French	6	3.2

	Frequency (n)	Percentage (%)
Gambian	6	3.2
Canadian	5	2.7
Moroccan	5	2.7
Pakistani	5	2.7
Iraqi	4	2.1
Libyan	3	1.6
Sudanese	3	1.6
Yemeni	3	1.6
Turkish	2	1.1
Cameroonian	1	0.5
Afghan	1	0.5
Italian	1	0.5
Somalia	1	0.5
Thai	1	0.5
<b>Number of years working in Malaysia</b>		
Less than 1 year	26	13.9
1-2 years	58	31.0
3-4 years	60	32.1
More than 5 years	43	23.0
<b>Marital Status</b>		
Single	82	43.9
Married	105	56.1
<b>Educational Level</b>		
Diploma	13	7.0
Degree	71	38
Master	72	38.5
PhD	31	16.6

**Table 2 Demographic Profile of Respondents**

From the 187 respondents, (63.1%) were male and (36.9%) were females, and a majority of them were 31-40 years old. This showed that most of the participants were young middle aged expatriates. The respondents made up of 25 nationalities, where Singaporean made the largest group, with 26 participants (13.9%), followed by Indian (9.6%) and Nigerian and Filipino expatriates with 14 respondents each (7.5%), respectively. Based on Table 2, the largest group of respondents had working experience of 3-4 years in Malaysia (32.1%) and a majority of the expatriates had a Master's Degree, with 72 respondents (38.5%).

### Reliability Analysis

The table below indicates that all variables are acceptable and reliable, based on the yielded Cronbach's Alpha value. These results confirms with previous studies done by Tih & Zainol, (2012) whereby the result of Cronbach's Alpha for 'green attitude' was 0.943, 'subjective norms' was

0.931, 'PBC' was 0.931, 'green practice consequences' was 0.908 and 'intention to recycle' was 0.937. This shows that the variables in the questionnaire were all reliable.

Variables	Cronbach's Alpha	No. of Items
Green Attitude	0.854	5
Subjective norms	0.812	3
Perceived Behavioural Control	0.769	4
Green Practice Consequences	0.796	4
Intention to Practice Reduce, Reuse & Recycle	0.867	3

**Table 3 Results of Reliability Test**

### Regression Analysis

The results from SPSS yielded several tables such as Descriptive Statistics, Model Summary, ANOVA and Coefficients, which were used in further analysing the data obtained from the questionnaires.

#### ANOVA<sup>a</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	15.358	4	3.839	11.198	.000 <sup>b</sup>
	Residual	62.405	182	.343		
	Total	77.762	186			

a. Dependent Variable: Y

b. Predictors: (Constant), GP, PerceiveBehaviour1, SNorm, GA

### Table 4 Regression ANOVA

Table 4 analyses that the data from the questionnaires by respondent through F-test and P-value were 11.198 and 0.000 respectively.

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.444 <sup>a</sup>	.197	.180	.58556

a. Predictors: (Constant), GP, PerceiveBehaviour1, SNorm, GA

### Table 5 Model Summary

With reference to Table 5, the Adjusted R Square value was 0.180, which means that 18% of variance in expatriates' intention to practice 3R were explained through the independent variables, which are green attitude, subjective norms, PBC and green practice consequences.

**Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.145	.542		2.113	.036
	GA	.361	.099	.271	3.648	.000
	SNorm	.108	.068	.111	1.583	.115
	PerceiveBehaviour1	-.020	.058	-.024	-.349	.727
	GP	.266	.092	.207	2.884	.004

a. Dependent Variable: Y

**Table 6 Coefficients**

From the above table, coefficient of Green Attitude shows significant positive relationship with intention whereby the p-value is less than 0.05 (0.00), with a beta coefficient of 0.361, which means that with one unit increase in Green Attitude, Intention will increase by 0.361.

The coefficient of Subjective norms shows insignificant positive relationship with intention whereby the p-value is greater than 0.05 (0.115), with beta coefficient of 0.108, which means that with one unit increase in Subjective norms, will increase Intention by 0.108. However, this relationship cannot be concluded due to the insignificant p-value.

From the table above, coefficient of PBC shows insignificant negative relationship with intention whereby the p-value is greater than 0.05 (0.727), with beta coefficient of -0.02, which means that with one unit increase in PBC, Intention will decrease by 0.02,. However, this relationship cannot be concluded due to the insignificant p-value.

From the table above, coefficient of Green Practice Consequences shows significant positive relationship with intention whereby the p-value is less than 0.05 (0.004), with beta coefficient of 0.266, which means that with one unit increase in Green Practice Consequences, Intention will increase by 0.226.

Correlations (r)

		Y	GA	SNorm	Perceive Behaviour1	GP
Y	Pearson Correlation	1	.381**	.232**	-.070	.322**
	Sig. (2-tailed)		.000	.001	.338	.000
	N	187	187	187	187	187
GA	Pearson Correlation	.381**	1	.299**	-.160*	.353**
	Sig. (2-tailed)	.000		.000	.029	.000
	N	187	187	187	187	187
SNorm	Pearson Correlation	.232**	.299**	1	-.093	.184*
	Sig. (2-tailed)	.001	.000		.206	.012
	N	187	187	187	187	187
Perceive Behaviour1	Pearson Correlation	-.070	-.160*	-.093	1	.034
	Sig. (2-tailed)	.338	.029	.206		.644
	N	187	187	187	187	187
GP	Pearson Correlation	.322**	.353**	.184*	.034	1
	Sig. (2-tailed)	.000	.000	.012	.644	
	N	187	187	187	187	187

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

#### Table 7 Correlations

The above table shows that Green Attitude (0.381), Subjective norms (0.232) and Green Practice Consequences (0.322) shows medium strong correlation with Intention. On the other hand, PBC shows a weak negative correlation with Intention. Although the four above independent variables show a correlation that supports all the four hypothesis, two of the independent variables, namely, subjective norms and PBC could not be concluded due to the insignificant p-value.

Hypothesis	Beta Coefficient	Correlation (r)	P Values	Supported (Yes/No) at p<0.05
H1: Green Attitude has a significant positive relationship with Intention to Reduce, Reuse & Recycle (3R).	0.271	0.381	0.000	Yes
H2: Subjective norms has a significant positive relationship with Intention to Reduce, Reuse & Recycle (3R).	0.111	0.232	0.115	No
H3: Perceived Behavioural Control has a significant positive relationship with Intention to Reduce, Reuse & Recycle (3R).	-0.24	-0.07	0.727	No
H4: Green Practice Consequences has a significant positive relationship with Intention to Reduce, Reuse & Recycle (3R).	0.207	0.322	0.004	Yes

**Table 8 Summary of Results**

The above table shows that from the four hypotheses, two of them, namely subjective norms and perceived behavioural control towards intention (H2 and H3), were rejected due to insignificant p-value.

### Discussion and Findings

The hypothesis that Green Attitude has a significant positive relationship with Intention to Reduce, Reuse & Recycle (3R) is supported by the analysis. This positive relationship is also confirmed by Tih & Zainol, (2012), whereby green attitude has a significant relationship towards the intention to recycle.

In contrast, subjective norms was found to be not significant with Intention to Reduce, Reuse & Recycle (3R). This insignificant positive relationship is also confirmed by Ioannou et al., (2013), where it was found that the individual's perception on social pressure with regards to recycling in Greece, or subjective norms, turned out to be not statistically significant towards intention. Other studies by Mannetti et al. (2004) also showed that there is no significant relationship between subjective norms and intention to recycle due to the weaknesses of the agree-disagree measures. This outcome is supported by Sangkapichai & Saphores (2009), whereby intentions may not necessarily transform into actual behaviour, due to differences between self-reported and actual behaviour, which was also pointed out by some studies on environment psychology. In the context of expatriates working in Malaysia, subjective norms might not be significant since the effect of peer pressure is not that obvious on them. This can be seen since the majority of expatriates have been working for less than 4 years in Malaysia and therefore there is less socialization as compared to the locals. Therefore, it might be possible that peer pressure has very little influence towards their intention to practice 3R activities.

PBC, which was hypothesized to have a significant positive relationship with Intention to Reduce, Reuse & Recycle (3R), was also found to be not significant and hence the hypothesis was rejected.

Previous study done by Tih & Zainol (2012) indicated that both the independent and dependent variables were positively related. The contradicting finding might be due to the different samples of the study since the focus of Tih & Zainol, (2012) was on households whereas this study was directly related to expatriates working in Malaysia. This variable might not be significant since expatriates perceive that it is easy to perform 3R activities. This is again due to the intention versus actual behaviour whereby they intend to perform 3R activities, regardless of the availability of the resources. This may indicate that since the expatriates are still new in Malaysia, they have already been exposed to the 3R concept and they intend to practice it here with or without the availability of resources. It is also important to note that majority of the expatriates have been working less than four years in Malaysia. Therefore, continuous monitoring and assistance in terms of resources should still be continued so that they could effectively participate in 3R related activities.

This scenario is also supported by Kim, Njite, & Hancer (2013), whereby findings showed that there is no positive correlation between perceived behavioural control and the intention to dine in a green restaurants. In another scenario, a study done by Begum et al. (2009), found that the attitude and behaviours of contractors on waste management differ according to the size of the contractors. This is an indication that different level of resources possessed by the contractors may have influenced the outcome of attitudes and behaviours. In the case of the expatriate community in Malaysia, it could be possible that different nationalities might have varying views towards perceiving the level of easiness in practicing 3R in Malaysia. Other than that, the use of information technology and electronic media is also easily available to them, which makes them savvier towards practicing 3R. Taking this into consideration, perhaps the sample should be extended to include foreign workers in establishing a significant relationship between perceived behavioural control and intention to practice 3R waste management strategies.

Green Practice Consequences would have a significant positive relationship with Intention to Reduce, Reuse & Recycle (3R) was confirmed by the analysis. This positive relationship between both variables is confirmed by Tih & Zainol (2012), whereby it was found that green practice consequences had a positive result towards the intention to engage in recycling activities. This outcome was also concurred by Tonglet et al. (2004), whereby other past research on green related studies confirmed that green practice consequences has a significant direct relationship with intention.

Finally, the demographic and behaviour analysis also provides indication on the expatriates' status and their preferences in engaging with environmental related behaviour. The analysis also explores the reasons and the most preferred practices by expatriates when it comes to 3R.

### **Conclusions, Limitations and Direction for Future Research**

This study has several limitations, which could be improved further by other researchers. Firstly, the use of Likert scale with (1) as strongly disagree and (5) as strongly agree as well as the arrangement of variables in the questionnaire could result in biasness in giving out answers by the respondents. This can be seen when green attitude is the first the variables being used in the questionnaire. The observation made is that it tends to create a feel good factor for the

respondents to answer the next questions. For example, when a respondent strongly agrees that 'green attitude is responsible', the tendency to answer other questions such as 'I am willing to involve in 3R practice' might be influenced. This is also pointed out by Mannetti et al., (2004), where there was no significant relationship between subjective norms and intention to recycle due to the weaknesses of the agree-disagree measures, which is also agreeable among other researchers.

Secondly, most of the questions in the questionnaire are merely based on the intention of the expatriate in practicing 3R waste management and not on the actual practice of the expatriate. Therefore, the answers given out in the questionnaire might not reflect the actual behaviour of expatriates but the intention of the expatriates and this might again create some biasness in the answers.

Thirdly, a longer time frame is needed to approach more expatriates in order to meet the number of respondents. Expatriates are busy individuals and more time needs to be allocated in order to achieve a bigger sample size. Therefore, appointments need to be made well ahead in order to reach out to these expatriates as they are busy working and travelling. A bigger sample size might produce varying results towards the hypothesis in the theoretical framework.

Fourthly, in order to obtain more accurate information, a qualitative approach instead of a quantitative approach is needed. This would mitigate some of the biasness such as the intention and the actual behaviour of expatriates. Also, this would mitigate the feel good factor of respondents while answering the questions.

Finally, the scope of the research should also include foreign workers, since they make up a much larger population as compared to expatriates. This would give a better understanding on the intention to practice 3R activities by lower scale employees, since they have also been working for quite a number of years in Malaysia.

### **Conclusion**

Expatriates do play a role in the nations plan to increase the rate of recycling as well as practicing 3R initiatives. They need to be acknowledged and exposed towards the recycling initiatives undertaken by the government. At the same time, employers should also play their role in educating them at organizational level. Government should also streamline their policies on recycling and make it mandatory across the country in order to avoid confusion among the expatriates. For example, resources such as recycling bins and proper information on items that need to be separated must be made clear to the people practicing it. At the same time, foreign workers should also be monitored by the government and be given enough of exposure and resources since they make a larger population compared to expatriates.

This study has successfully established the relationship between the variables in the hypothesis whereby green attitude and green practice consequences were found to be positively related, while subjective norms and PBC were not statistically significant and rejects the hypothesis.



Therefore, the above suggestions and research limitations could be taken into consideration by the stakeholders in assisting expatriates in practicing 3R waste management strategy in Malaysia.

## References

- Agamuthu, P., Chenayah, S., Abdul Hamid, F., & Victor, D. (2011). *3R Related Policies for Sustainable Waste Management in Malaysia*. Proc. of Conference on Innovation and Sustainability Transitions in Asia. Kuala Lumpur, Malaysia, Paper 135.
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T).
- Ajzen, I. (2002). Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior. *Journal of Applied Social Psychology*, 32(6), 2918–2940. <https://doi.org/10.1111/j.1559-1816.2002.tb00236.x>.
- Ajzen, I. (2005). *Attitudes, Personality and Behavior* (2nd ed.). Berkshire, England: Open University Press.
- Bamberg, S., Ajzen, I., & Schmidt, P. (2003). Choice of Travel Mode in the Theory of Planned Behavior: The Roles of Past Behavior, Habit, and Reasoned Action. *Basic and Applied Social Psychology*, 25(3), 175–187. [https://doi.org/D0I:10.1207/S15324834BASP2503\\_01](https://doi.org/D0I:10.1207/S15324834BASP2503_01).
- Begum, R. A., Siwar, C., Pereira, J. J., & Jaafar, A. H. (2009). Attitude and Behavioral Factors in Waste Management in the Construction Industry of Malaysia. *Resources, Conservation and Recycling*, 53(6), 321–328. <https://doi.org/10.1016/j.resconrec.2009.01.005>
- Black, J. S., Mendenhall, M., & Oddou, G. (1991). Toward A Comprehensive Model of International Adjustment: *An Integration of Multiple Theoretical Perspectives*. *Academy of Management Review*, 16, 291–317.
- Boiral, O., Talbot, D., & Paillé, P. (2015). Leading by Example: A Model of Organizational Citizenship Behavior for the Environment. *Business Strategy and the Environment*, 24(6), 532–550. <https://doi.org/10.1002/bse.1835>.
- Business Dictionary. (2017). Retrieved from <http://www.businessdictionary.com/definition/expatriate.html>.
- Chen, W. J. (2014). A Comparative Analysis of Consumers' Attitude and Behavior Toward Green Practices. *Journal of Tourism & Recreation*, 1(2), 15–26. <https://doi.org/10.12735/jotr.v1i2p15>
- Damodaran, R. (2016). Malaysia Attracts RM88.4 Billion in Investments For 1H: Mustapa. Retrieved from <http://www.nst.com.my/news/2016/09/175279/malaysia-attracts-rm884-billion-investments-1h-mustapa>
- Edmund, E. (2017, March 2). Phone interview.
- Godin, G., & Kok, G. (1996). The Theory of Planned Behaviour A Review of Its Applications to Health Related Behaviours, *American Journal of Health Promotion*, 1(2), 87-98.
- Goh, M. L., Tong, D. Y. K., & Ahmed, E. M. (2012). Extended Theory of Planned Behaviour Model for Measuring Households' Recycling Behaviour in Malaysia. *Advanced Materials Research*, 622–623, 1691–1695. <https://doi.org/10.4028/www.scientific.net/AMR>

- Hage, O., Söderholm, P., & Berglund, C. (2009). Norms and Economic Motivation in Household Recycling: Empirical Evidence from Sweden. *Resources, Conservation and Recycling*, 53(3), 155–165. <https://doi.org/10.1016/j.resconrec.2008.11.003>
- Ioannou, T., Zampetakis, L. A., & Lasaridi, K. (2013). Psychological Determinants of Household Recycling Intention in the Context of the Theory of Planned Behaviour. *Fresenius Environmental Bulletin*, 22(7 A), 2035–2041.
- Itani, S. (2011). *Expatriate Knowledge Sharing, Replacement And Repatriation Processes In Linkage With The Performance Management – Case Metso*. Unpublished Master thesis, University of Jyväskylä, retrieved from <https://jyx.jyu.fi/dspace/bitstream/handle/123456789/37123/URN%3aNBN%3afi%3ajyu-2011121911830.pdf?sequence=1>
- Joma, S., Baba, O., & Sunoko, H. R. (2015). Evaluation of Municipal Solid Waste Management System (Case Study: Graha Padma Estate, Semarang), 2015(2004), 5–10. <https://doi.org/10.7237/sjeer/186>
- Kim, Y. J., Njite, D., & Hancer, M. (2013). Anticipated Emotion in Consumers' Intentions to Select Eco-Friendly Restaurants: Augmenting the Theory of Planned Behavior. *International Journal of Hospitality Management*, 34(1), 255–262. <https://doi.org/10.1016/j.ijhm.2013.04.004>
- Kivi, R. (2011). *Reduce, Reuse, Recycles: Sorting it All Out*. Retrieved from <http://www.brighthub.com/environment/green-living/articles/95401.aspx>
- Mannetti, L., Pierro, A., & Livi, S. (2004). Recycling: Planned and Self-Expressive Behaviour. *Journal of Environmental Psychology*, 24(2), 227–236. <https://doi.org/10.1016/j.jenvp.2004.01.002>
- Moh, Y. C., & Abd Manaf, L. (2014). Overview of Household Solid Waste Recycling Policy Status and Challenges in Malaysia. *Resources, Conservation and Recycling*, 82(December), 50–61. <https://doi.org/10.1016/j.resconrec.2013.11.004>
- MSC Malaysia Directory. (2016). Retrieved from <http://mdec.my/directory/msc-malaysia-directory>.
- Okpara, O., & Kabongo, D. (2010). Cross-cultural Training and Expatriate Adjustment: A Study of Western Expatriates in Nigeria. *Journal of World Business*, 46(2011), 22–30
- Omran, A., Mahmood, A., Abdul Aziz, H. R. G. (2009). Investigating Household Attitude Toward Recycling of Solid Waste in Malaysia: A case study. *International Journal of Environmental Research*, 3(2), 275–288.
- Pallant, J. (2011). *SPSS Survival Manual: A Step By Step Guide to Data Analysis Using IBM SPSS*. Sydney, Australia: Allen & Unwin.
- Park, J., & Ha, S. (2014). Understanding Consumer Recycling Behavior: Combining the Theory of Planned Behavior and the Norm Activation Model. *Family and Consumer Sciences Research Journal*, 42(3), 278–291. <https://doi.org/10.1111/fcsr.12061>
- Pinto, R. (2014). Expats in Malaysia: What You Should Know. Retrieved from <http://www.expatsgo.com/my/2014/02/24/expats-in-malaysia-what-you-should-know/>
- Ramayah, T., Lee, J. W. C., & Mohamad, O. (2010). Green product purchase intention: Some insights from a developing country. *Resources, Conservation and Recycling*, 54(12), 1419–1427. <https://doi.org/10.1016/j.resconrec.2010.06.007>

- Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research Methods for Business Students* (6<sup>th</sup> ed.). Essex, England: Pearson Education Limited.
- Schubert, F. (2008). *Exploring and Predicting Consumers' Attitudes and Behavior toward Green Restaurants*. Unpublished PhD Thesis, The Ohio State University, retrieved from <http://lib.dtc.ac.th/thesis/0318.pdf>
- Smith, E. E., & Perks, S. (2010). A Perceptual Study of the Impact of Green Practice Implementation on the Business Functions. *Southern African Business Review*, 14(3), 1-2.
- Tan, C., & Ho, S. (2014). Tourists, Expatriates and International Retirees :An Empirical Evidence from Malaysia, 4, 1–8. <https://doi.org/10.1051/shsconf/20141201034>
- Tih, S., & Zainol, Z. (2012). Minimizing Waste and Encouraging Green Practices. *Jurnal Ekonomi Malaysia*, 46(1), 157–164.
- Tonglet, M., Phillips, P. S., & Read, A. D. (2004). Using the Theory of Planned Behaviour to Investigate the Determinants of Recycling Behaviour: A case study from Brixworth, UK. *Resources, Conservation and Recycling*, 41(3), 191–214. <https://doi.org/10.1016/j.resconrec.2003.11.001>
- Ward, C., & Kennedy, A. (1992). Locus of Control, Mood Disturbance and Social Difficulty during Cross-Cultural Transitions. *International Journal of Intercultural Relations*, 16, 175–194.