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FACTORS INFLUENCING ETHICAL CONSUMPTION BEHAVIOR AMONG MUSLIM HOUSEHOLD: AN EMPIRICAL RESEARCH IN TERENGGANU, MALAYSIA

(Faktor-faktor yang Mempengaruhi Tingkah Laku Penggunaan Beretika dalam Kalangan Isi Rumah Muslim: Penyelidikan Empirikal di Terengganu, Malaysia)

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ABSTRACT

One of the factors that contribute seriously to the degradation of environmental quality is household waste. Hence, household participation in environmental conservation especially in consumption ethics such as pre-cycling, reusing and recycling towards household waste management should be discussed. Therefore, this paper aims to identify the influential factors that reinforcing ethical consumption behavior of Muslim households in one of the east coast states of Malaysia known as Terengganu. Survey method was employed to gain information on the influential factors of pre-cycling, reusing and recycling activities. The questionnaire was distributed to 328 respondents through simple random sampling methods. Validity and reliability of 29 items with five scales were tested statistically. Sampling adequacy measure based on the Kaiser-Meyer-Olkin (KMO) value is 0.745 (high). The rotated component matrix in test of validity showed the value of all items in the questionnaire are more than 0.30 and each item loaded with its proposed constructs. While, Cronbach's Alpha values showed the reliability of the items are high (range from 0.681 to 0.870). Descriptive

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analysis, means and standard deviation was conducted to identify the level of affected factor of household in their pre-cycling, reusing and recycling activities. The highest factor for pre-cycling, reusing and recycling activities of household was social factors. Besides that, their pre-cycling, reusing and recycling behavior was also influenced by economic factor while religious and political factors are the least supporting factors. The findings are useful as a platform in order to advocate consumption ethics amongst Muslim community in Malaysia.

Keywords: Consumption ethics; pre-cycling; reusing; recycling; Muslim.

ABSTRAK

Salah satu faktor yang menyumbang kepada kemerosotan kualiti alam sekitar adalah sisa isi rumah. Sehubungan itu, penyertaan isi rumah dalam pemuliharaan alam sekitar terutamanya dalam etika penggunaan seperti pra-kitar semula, guna semula dan kitar semula terhadap pengurusan sisa isi rumah harus dibincangkan. Oleh itu, tujuan makalah ini adalah untuk mengenal pasti pengaruh faktor-faktor yang memperkasakan penggunaan beretika dalam kalangan isi rumah Muslim di salah satu negeri pantai timur di Malaysia iaitu Terengganu. Kaedah tinjauan digunakan untuk mendapatkan maklumat mengenai faktor-faktor yang mempengaruhi aktiviti pra-kitar semula, guna semula dan kitar. Borang soal selidik telah diedarkan kepada 328 orang responden melalui kaedah persampelan rawak mudah. Kebolehpercayaan dan kesahan 29 item dengan lima skala diuji secara statistik. Ukuran kecukupan sampel berdasarkan nilai Kaiser-Meyer-Olkin (KMO) adalah 0.745 (tinggi). Matriks komponen berputar dalam ujian kesahan menunjukkan semua nilai item dalam borang soal selidik adalah melebihi 0.30 dan setiap item dimuatkan mengikut konstruk yang dicadangkan. Manakala, nilai Alfa Cronbach menunjukkan kebarangkalian item adalah tinggi (antara 0.681 hingga 0.870). Analisis deskriptif, min dan sisihan piawai dilakukan untuk mengenal pasti tahap faktor yang mempengaruhi isi rumah dalam aktiviti pra-kitar semula, guna semula dan kitar semula. Tahap faktor yang mempengaruhi aktiviti pra-kitar semula, guna semula dan kitar semula adalah faktor sosial. Selain itu, tingakah laku pra-kitar semula, guna semula dan kitar semula juga dipengaruhi oleh faktor ekonomi, manakala, faktor agama dan politik antara yang paling kurang berpengaruh. Dapatan kajian ini berguna sebagai wahana untuk menyokong etika penggunaan dalam kalangan masyarakat Muslim di Malaysia.

Kata kunci: *Etika peggunaan; pra-kitar semula; guna semula; kitar semula; Muslim.*

INTRODUCTION

The concept of sustainable development takes into account in meeting human need and the needs for future generations. Nowadays, pattern of consumption showed

two different pattern namely (a) not meeting the needs of everyone in current generation; and (b) damaging the environment and exploiting natural resources and denying the ability of future generations to meet their needs. Ethical consumption is when consumers do not surpass the limit by using what they need and not what they desire. When needs are elevated to what consumer wants, while status in society will be assessed from the wealth they have, this is known as unethical consumption (Michaelis 2000). One of ethical consumption that lead to sustainable behaviour is by practicing reduce, reuse and recycle (3Rs) activities in daily lives. 3Rs are individual's responsibility to manage natural resources while taking into consideration of the needs of future generation (Susanto et al. 2019).

Generation of waste in Malaysia has increased more than 91% over the past 10 years (Periathamby et al. 2009). In Kuala Lumpur (the capital of Malaysia), the rate of waste generation is increasing every year as a result of excessive consumption due to the increase in population, attitude spending and high living standard (Saeed et al. 2009; Department of Statistic Malaysia 2020). At present, statistic show approximately 50% of the solid waste generated in Malaysia originates from household followed by commercial waste, street cleansing, institutional, industry and construction (Saeed 2009). Household waste recognizes as implication of over-consumption that contribute seriously to the degradation of environmental quality. Therefore, the Malaysian government has undertaken various initiatives to encourage our society by initiating Enforcement of Solid Waste and Public Cleansing Management Act (Act 672) in order to manage the amount of household waste that enters the landfill. One of the aims of Act 672 is to minimize waste through 3Rs namely reduce, reuse and recycle by referring solid waste hierarchy in solid waste management.

Hence, in this article, ethical consumption behavior in environmental context can be define as pre-cycling, reusing & recycling behavior. Pre-cycling behavior is defined as waste prevention approach which refer to total or almost total avoidance of waste by extreme waste prevention and reuse (Bartl 2014) to fit sustainable consumption aims. While, reusing and recycling behavior which focus on post-consumption behavior (Mashitoh 2009). Reusing behavior is applied by reinventing items after their primary life and avoiding additional waste by all means required. While, recycling behavior defined as the process of changing the items considered to be waste into a valuable resource that can be consumed for other purposes. These behaviors are the starting point in inspiring ourselves to preserve our environment, but at the same time it is important to ensure the success of conservation (Groves 2008).

Each religion such as Islam, Christian, Buddhism and Hinduism promote the transformation of beliefs and attitudes to produce values and practices towards sustainability based on the application of its environmental ethics precepts at community level (Zagonari 2020). One critical point of view deserves examination

is 'Islamic environmental ethics' which is to this date hardly known in addressing the phenomenon of consumer culture. The phenomenon of consumer culture from perspectives other than 'consumer research' and 'sociology research,' let alone from the point of view of 'Islamic environmental ethics,' have yet to be explored thoroughly by researchers to date. Hence, it is significant for this current research to define the phenomenon from Islamic environmental ethical point of view in order to identify workable alternatives in addressing this phenomenon. Therefore, this article attempts to determine the level of consumption ethics amongst Muslim households and to identify the highest factors (social, economic, religious and politic) that supporting consumption ethics amongst Muslim households.

LITERATURE REVIEW

Previous studies have highlighted four factors (which include individual and situational factors) that consumers take into account to act ethical consumption behavior (pre-cycling, reusing and recycling). First factor is social factor. Social factor that include individual aspects are environmental knowledge and awareness. Many previous studies validated that environmental knowledge enable to change people's attitude and behavior towards environment (Ahmad 2012; Ittiravivongs 2011; Ali et al. 2012; Janmaimool & Khajohnmanee 2019; Inkpen & Baily 2020). Environmental education is identified as important aspect in order to achieve sustainable life. Educating the public on recycling could increase the rate of recycling. Moreover, people who already have environmental awareness and environmental knowledge will invite other neighborhood to participate in green activities.

Besides that, social factor that include situational aspects are recycling facility and services, campaign, structural and promotional aspects of recycling system, role of mass media and surrounding communities. Previous researchers found that curbside recycling services and drop-off centers are the operative recycling facilities and services in order to increase recycling rate among consumers (D'Elia 2008; Sidique et al. 2010; Ittiravivongs 2011; and Mahat et al. 2015). Moreover, the facilities and services should be convenience and comfortable to get access. Otherwise, the insufficiency and inadequacy of the recycling support systems could demotivate consumers' willingness to participate in recycling activity as well as obstruct their actual recycling behavior (D'Elia 2008; Ittiravivongs 2011).

Furthermore, D'Elia (2008) noticed that environmental campaigns highlighting environmental threats caused by waste are more effective in increasing household recycling rates. Besides that, the improvements of recycling systems in term of the accessibility, promotion and structure aspects were more supportive to boost recycling rates compared to monetary penalties (D'Elia 2008). Moreover, Ahmad et al. (2011) added the role of mass media especially television in promoting such campaigns can

boost environmental awareness among societies and at the same time can attract communities to participate in reducing, reusing and recycling activities. Besides that, the role of social media nowadays, can work as effective medium to convey the message on environmental awareness and to help communities to acknowledge 3R campaigns and the specific information (Suraya et al. 2017). Ittiravivongs (2011) noticed that people practices recycling if their neighborhoods have a positive attitude towards recycling. Thus, those communities who interested to participate in recycling activities will produce more recyclable waste compared to communities who is not impressed (Ali et al. 2012).

Furthermore, some researchers identified economic aspect as one of the reasons for applying consumption ethics. According to Gani et al. (2012), those with low income will spend their time more in organizing and separating recyclable waste which able to generate side income for them. Rahman (2007) agreed that those people who approaching recycling and reusing activities like a full-time job will earn more income. Instead of economic aspect, some researchers indicated that religious aspect also influence respondents in performing consumption ethics. Significantly, religious aspect seems related to recycling behaviour (D'Elia 2008) and statistically linked with reasons why respondents recycle (Felix et al., 2013). According to Felix et al. (2013), Muslim and Christian respondents recycle more than those who do not attend any mosque or church. Moreover, Kadikon and Othman (2010) explained that recycling is one of the ways of worship Allah since cleanliness is a part of faith in Islam and it is an inseparable part of the Muslim's life. While, Rahman (2007) justified that a good Muslim will not waste his wealth by extravagant spending as Islam recommends moderation.

The forth factor that influence consumption ethics is political aspect. Ali et al. (2012) stated that government is already introduced many concepts and campaigns such as recycling awareness, providing recycle bins at main center and segregating waste based on its type. Besides that, Nishio and Takeuchi (2005) noticed that recycling rules and systems set up by local authorities was also important to perform consumer's recycling behavior in order to manage the environment effectively (Ali et al. 2012). Lockhart (2003) identified that respondents' participation in recycling activities has a positive correlation with type of municipal solid waste fee policy. While, Sidique et al. (2010) supported and justified that waste disposal prices are an effective policy tool intended for growing the volume of recycling and decreasing waste generation.

METHODS

The main method in this paper is quantitative data. Cross-sectional study was adopted in this research survey as the data were collected only at one topic of the time for the same respondents (Marican 2005 and de Vaus 2002). The questionnaire was fully

adapted from the instrument developed by Mashitoh (2009) and some items had been modified to fulfill the research objectives and appropriate with the culture in Malaysia. The questionnaire consists of three sections namely Section A: Pre-cycling, Section B: Reusing & Recycling, and Section C: Household Information. Every item for Section A and Section B contains two measured construct, first, consumption ethics, i.e., pre-cycling, reusing and recycling activities. Likert scale from 0 to 4 applied to measure this construct which 0 = 'never', 1 = 'rarely', 2 = 'sometimes', 3 = 'most of the time' and 4 = 'always'. Second construct is the influential factors, i.e., social, economic, religious and political factor. Five (5) level of Likert scale from 0 to 4 applied to measure this construct which 0 = 'no influence', 1 = 'a little influence', 2 = 'some influence', 3 = 'strong influence' and 4 = 'very strong influence'. While, Section C is to classify respondents' background such as gender, age, marital status, education level and monthly income. At the end of questionnaire, respondents were allowed to leave their comments or insights regarding consumer ethics issues.

This study employed simple random sampling method in collecting data. By using this sampling strategy, all samples of the population have the same chance of being selected. A set of questionnaires was distributed face-to-face to 328 Muslim household in Terengganu, Malaysia. Terengganu was selected as location of study because the generation of solid waste at East peninsular of Malaysia is fewer, unlike the main cities in West peninsular that increasing rapidly (Muhamad Azahar & Wee 2014). Other than that, according to Department of Statistic Malaysia (2020), Muslim population in Terengganu are among the highest in Malaysia stated 1,308,470 Muslims. Data was collected within three months from October to December 2015. The respondents age range from 20 to 79 years old and more than half of respondents are female (53.0%) and married (63.8%). The highest educational level of most respondents were SPM level (30.3%) with income from less than RM1,000 (23.2%). The summary of respondents' profile was presented in table 1.

TABLE 1 Profile of Respondent

Demographic characteristics	Amount	Percentages (%)
Age		
20-29	103	31.4
30-39	91	27.8
40-49	47	14.3
50-59	41	12.5
60-69	14	4.3
70-79	3	0.9
Not Specified	29	8.8
Total	328	100.0

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Gender		
Male	124	37.8
Female	174	53.0
Not Specified	30	9.2
Total	328	100.0
Marital status		
Single	87	26.5
Married	206	62.8
Not Specified	35	10.7
Total	328	100.0
Highest education level		
Primary	4	1.2
PMR/LCE	7	2.1
SPM	99	30.3
Certificate	52	15.9
Diploma	51	15.5
Degree	45	13.7
Master's degree	4	1.2
Not Specified	66	20.1
Total	328	100.0
Monthly income		
<RM1000	76	23.2
RM1001-RM2500	73	22.3
RM2501-RM5000	27	8.2
>RM5001	4	1.2
Not Specified	148	45.1
Total	328	100.0

Data collected through self-reported by respondents will be analyzed to achieve the aims of this study. In this article, data were analyzed using descriptive analysis to identify mean value and standard deviation in order to discover the participation among respondents in pre-cycling, reusing and recycling activities and also to recognize the most influential factors for respondents in applying consumption ethics in their daily lives. Statistical Package for Social Science (SPSS) version 22.0 was used as analysis tools in order to facilitate data analysis. However, the most important process before data analysis proceeded is to test validity and reliability of the variables and constructs of the instrument. Validity and reliability test of 29 items, 5 scales each is conducted. According to de Vaus (2002), validity test is conducted to identify whether

an indicator measures the concept that we intend to measure. While, "reliability test is a measure of consistency with which people give the same response on different occasions assuming no change in the characteristic being measured" (de Vaus 2002 p.364).

TABLE 2 Kaiser-Meyer-Olkin (KMO) value in validity test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.745
Bartlett's Test of Sphericity	Approx. Chi-Square	1514.084
	df	45
	Sig.	.000

Meanwhile, validity test was examined statistically to identify whether the instrument used measures what it is supposed to measure. According to Table 2, Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) for the items were above 0.7 (i.e., 0.745) indicates that a set of variables in the correlation matrix was sufficiently high and suitable for factor analysis (de Vaus 2002). Furthermore, significance value is less than 0.01 demonstrates that the factor analysis was significant with the research data.

TABLE 3 Factor analysis of validity test

	Item	Construct					
		1	2	3	4	5	6
Pre-cycling:							
1.	Shopping at a flea market, or a second-hand shop for household		.957				
2.	Buying refillable items for household such as ink pens, perfume, or dishwasher liquid		.945				
3.	Buying fruit and vegetables loose, not packaged, or with as little packaging as possible		.903				
4.	Using own bag when going shopping, rather than one provided by the shop		.960				
5.	Buying products because either the products or their packaging can be used again rather than those that can only be used once		.874				
6.	Buying products with the phrase "environmentally friendly" on the label		.907				

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7.	Buying canned drinks or glass bottled drinks, rather than plastic bottled drinks		.901				
8.	Buying a bulky pack rather than a small pack for products that household consumes in quantity		.948				
9.	Minimizing waste by using every bit of the food that prepare for family and throwing away as little as possible		.934				
10.	Buying a handkerchief rather than tissues, or washable nappies rather than disposable nappies		.853				
11.	Family, friends, neighbors, co-workers, TV programs, or advertisements (Social factor influenced Pre-cycling activities).					.888	
12.	*Imam*, *ustaz*, or other religious figures (Religious factor influenced Pre-cycling activities).				.882		
13.	Price, cost effectiveness, financial subsidies, taxes, supermarkets, shops or manufacturers (Economic factor influenced Pre-cycling activities).			.833			
14.	Consumer associations' opinions/views, or government/ politician instruction/ appeal (Political factor influenced Pre-cycling activities).						.875
Reusing and Recycling:							
15.	Trying to get something repaired rather than buying a new one	.904					
16.	Taking old recyclable items to a recycling center	.870					
17.	Sorting out household waste according to whether or not it is recyclable	.873					
18.	Reusing paper, cardboard, junk mail, magazines, or newspapers for other purposes such as wrappers, artwork, or to light the fire	.940					
19.	Feeding animals such as pets, livestock, wild birds, stray cats and so forth with household organic waste	.883					
20.	Composting household organic waste	.803					
21.	Freezing food leftovers for another meal or unexpected guests	.970					
22.	Reusing plastic items such as bottles, bags, containers and so forth	.950					

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23.	Recycling food cans and drinks cans	.963				
24.	Reusing textiles such as old baby clothes for a new baby	.974				
25.	Recycling or reusing glass bottles and jars	.950				
26.	Family, friends, neighbors, co-workers, TV programs, or advertisements (Social factor influenced reusing and recycling activities).				.881	
27.	*Imam*, *ustaz*, or other religious figures (Religious factor influenced reusing and recycling activities).			.843		
28.	Price, cost effectiveness, financial subsidies, taxes, supermarkets, shops or manufacturers (Economic factor influenced reusing and recycling activities).		.871			
29.	Consumer associations' opinions/views, or government/ politician instruction/ appeal (Political factor influenced reusing and recycling activities).					.876

Results from the factor analysis as shown in Table 3 indicates that rotated component matrix was in two significant factors with eigenvalues greater than 1 which all items loaded above 0.30 and each item loaded with its proposed constructs. The two significant factors were named consumption ethics (two items i.e., pre-cycling and reusing & recycling, which is loading at Construct 2 and Construct 1 respectively) and influential factors (eight items i.e., social, religious, economic and political factor, which is loading at Construct 5, Construct 4, Construct 3 and Construct 6 respectively). While interpreting the factors, only high loading factors i.e., greater than 0.3 were considered (de Vaus 2002).

TABLE 4 Result of reliability test

Scale	Number of Item	Mean	Cronbach's alpha value
Pre-cycling	10	2.566	0.706
Social factor	10	2.885	0.837
Religious factor	10	2.497	0.868
Economic factor	10	2.680	0.815
Political factor	10	2.384	0.868
Reusing and recycling	11	2.785	0.681
Social factor	11	2.948	0.824

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Religious factor	11	2.628	0.880
Economic factor	11	2.707	0.820
Political factor	11	2.435	0.870

Based on Table 4, Cronbach's Alpha value for pre-cycling, reusing and recycling and the four factors are high and more than 0.6. According to de Vaus (2002, p.184), "the higher the figure the more reliable the scale." De Vaus (2002) emphasized that "as a rule of thumb, alpha value should be at least 0.6 before we say that the scale is reliable." The result of reliability analysis shows all Cronbach's Alpha value is high which means the consistencies among items in the research instruments are high. Moreover, the high value of Cronbach's Alpha demonstrates the more reliable of the factors and items in this study and the instrument was understood by respondents.

FINDINGS AND DISCUSSIONS

Factors influencing Pre-cycling Activities

TABLE 5 Mean Score Value and Standard Deviation of Pre-cycling Activities

	Item	Mean Score	Social	Religious	Economic	Political
30.	Shopping at a flea market, or a second-hand shop for household	2.25 (±0.90)	3.01 (±0.82)	2.61 (±0.93)	2.85 (±0.91)	2.48 (±0.99)
31.	Buying refillable items for household such as ink pens, perfume, or dishwasher liquid	2.73 (±0.85)	3.01 (±0.80)	2.50 (±0.94)	2.85 (±0.89)	2.47 (±0.99)
32.	Buying fruit and vegetables loose, not packaged, or with as little packaging as possible	2.64 (±0.91)	2.85 (±0.89)	2.47 (±0.95)	2.67 (±0.89)	2.35 (±0.97)
33.	Using own bag when going shopping, rather than one provided by the shop	2.32 (±0.95)	2.77 (±0.97)	2.39 (±1.02)	2.62 (±0.97)	2.34 (±0.97)
34.	Buying products because either the products or their packaging can be used again rather than those that can only be used once	2.65 (±0.90)	2.81 (±0.93)	2.47 (±0.94)	2.63 (±0.93)	2.37 (±1.01)
35.	Buying products with the phrase "environmentally friendly" on the label	2.67 (±0.75)	2.80 (±0.87)	2.47 (±0.941)	2.55 (±0.96)	2.32 (±0.95)
36.	Buying canned drinks or glass bottled drinks, rather than plastic bottled drinks	2.30 (±0.89)	2.81 (±0.97)	2.38 (±0.97)	2.55 (±0.95)	2.38 (±1.02)
37.	Buying a bulky pack rather than a small pack for products that household consumes in quantity	2.95 (±0.78)	3.08 (±0.84)	2.65 (±1.02)	2.90 (±0.96)	2.54 (±1.00)

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38.	Minimizing waste by using every bit of the food that prepare for family and throwing away as little as possible	2.93 (±0.91)	3.02 (±0.88)	2.71 (±0.95)	2.67 (±0.98)	2.36 (±1.00)
39.	Buying a handkerchief rather than tissues, or washable nappies rather than disposable nappies	2.20 (±0.96)	2.70 (±0.99)	2.32 (±0.97)	2.52 (±1.01)	2.22 (±0.98)

Table 5 showed that majority of respondents agreed (mean score value between 2.64 to 2.95) that most of the time they did pre-recycling activities such as buying a bulky pack rather than a small pack for products that household consumes in quantity (2.95), minimizing waste by using every bit of the food that prepare for family and throwing away as little as possible 2.93), buying refillable items for household such as ink pens, perfume, or dishwasher liquid (2.73), buying products with the phrase "environmentally friendly" on the label (2.67), buying products because either the products or their packaging can be used again rather than those that can only be used once (2.65) and buying fruit and vegetables loose, not packaged, or with as little packaging as possible (2.64). Conversely, the respondents rate that sometimes they using own bag when going shopping, rather than one provided by the shop (2.32), buying canned drinks or glass bottled drinks, rather than plastic bottled drinks (2.30), shopping at a flea market, or a second hand shop for household (2.25) and buying a handkerchief rather than tissues, or washable nappies rather than disposable nappies (2.20).

According to Table 5, most of respondents agreed that social factors – family, friends, neighbors, co-workers, TV programs, or advertisements (mean score value between 2.70 to 3.08) have strong influence that encourage them to involve in all pre-cycling activities. Meanwhile, economic factors (price, cost effectiveness, financial subsidies, taxes, supermarkets, shops or manufacturers) also discovered as a strong influential factor (mean score value between 2.52 to 2.90) and followed by religious factors *(imam*, *ustaz*, or other religious figures) with mean score value between 2.32 to 2.71. Unfortunately, the majority of respondents stated that political factors (consumer associations' opinions/views, or government/ politician instruction/ appeal) (mean score value between 2.22 to 2.54) are less influence in their decision making during participating in pre-cycling activities.

Factor influencing Reusing & Recycling Activities

TABLE 6 Mean score value and standard deviations for reusing and recycling activities

	Item	Mean Score	Social	Religious	Economic	Political
26.	Trying to get something repaired rather than buying a new one	3.11 (±0.77)	3.13 (±0.79)	2.80 (±0.97)	2.88 (±0.90)	2.56 (±1.03)
27.	Taking old recyclable items to a recycling center	2.82 (±0.90)	2.96 (±0.91)	2.64 (±0.98)	2.74 (±0.97)	2.49 (±0.99)
28.	Sorting out household waste according to whether or not it is recyclable	2.77 (±0.91)	2.97 (±0.92)	2.58 (±0.97)	2.62 (±0.95)	2.45 (±1.02)
29.	Reusing paper, cardboard, junk mail, magazines, or newspapers for other purposes such as wrappers, artwork, or to light the fire	3.17 (±0.69)	3.13 (±0.78)	2.78 (±0.98)	2.90 (±0.91)	2.61 (±1.01)
30.	Feeding animals such as pets, livestock, wild birds, stray cats and so forth with household organic waste	2.79 (±1.12)	2.95 (±0.94)	2.66 (±1.00)	2.64 (±1.01)	2.41 (±1.03)
31.	Composting household organic waste	2.26 (±0.85)	2.79 (±0.91)	2.46 (±0.95)	2.53 (±0.918)	2.30 (±1.01)
32.	Freezing food leftovers for another meal or unexpected guests	1.92 (±1.08)	2.47 (±1.09)	2.23 (±1.09)	2.29 (±1.06)	2.04 (±1.07)
33.	Reusing plastic items such as bottles, bags, containers and so forth	2.95 (±0.76)	2.98 (±0.86)	2.66 (±0.94)	2.80 (±0.94)	2.48 (±0.96)
34.	Recycling food cans and drinks cans	2.79 (±0.81)	2.97 (±0.90)	2.66 (±0.94)	2.75 (±0.93)	2.51 (±1.00)
35.	Reusing textiles such as old baby clothes for a new baby	3.07 (±0.82)	3.04 (±0.90)	2.77 (±1.01)	2.85 (±0.99)	2.51 (±1.07)
36.	Recycling or reusing glass bottles and jars	2.99 (±0.83)	3.04 (±0.87)	2.68 (±1.00)	2.77 (±0.96)	2.42 (±1.02)

Based on Table 6, most respondents agreed (mean score value between 2.77 to 3.17) that they participating in reusing and recycling activities namely reusing paper, cardboard, junk mail, magazines, or newspapers for other purposes (3.17), trying to get something repaired rather than buying a new one (3.11), reusing textiles such as old baby clothes for a new baby (3.07), recycling or reusing glass bottles and jars (2.99), Reusing plastic items such as bottles, bags, containers and so forth (2.95), taking old recyclable items to a recycling center (2.82), feeding animals such as pets, livestock,

wild birds, stray cats and so forth with household organic waste (2.79), recycling food cans and drinks cans (2.79), and sorting out household waste according to whether or not it is recyclable (2.77). Besides that, the respondents rate that they somewhat agreed (mean score value from 1.92 to 2.26) towards reusing and recycling activities specifically on composting household organic waste (2.26) and freezing food leftovers for another meal or unexpected guests (1.92).

Besides that, according to Table 6, most of the respondents agreed that family, friends, neighbours, co-workers, TV programs, or advertisements (social factor) have strong influence to them in participating in reusing and recycling activities (mean score value between 2.47 to 3.13). The second factor that have strong influence respondents in reusing and recycling (mean score value between 2.29 to 2.90) is economic factor (price, cost effectiveness, financial subsidies, taxes, supermarkets, shops or manufacturers) and followed by religious factor – *imam, ustaz*, or other religious figures (mean score value between 2.23 to 2.80). The results also revealed that political factor (consumer associations' opinions/views, or government/politician instruction/ appeal) is the less influential factor among respondents in practicing reusing and recycling activities with mean score value is between 2.04 to 2.56.

DISCUSSIONS

Social Factor

The findings showed the same pattern of the factors affected consumption ethics. Generally, social factors were claimed by majority of respondents as the strongest factor influencing them taking part in pre-cycling, reusing and recycling activities. These findings were supported by past researchers (Ittiravivongs 2011; Sidique et al. 2010; D'Elia 2008; Kollmuss and Agyeman 2002; and Afroz et al. 2008) who found that recycling facilities and services such as collecting recyclable items services and convenience drop-off recycling centers are effective in persuading the societies to participate recycling activities and simultaneously increasing the rate of recycling. The improvements of recycling services should be clearly alarmed by government as the insufficiency of the services could largely discourage communities' enthusiasm to recycle as well as impede their recycling behavior (Ittiravivongs 2011). Kollmuss and Agyeman (2002) added that many pro-environmental behaviors including consumption ethics can only be done if the necessary facilities and infrastructures are provided. Therefore, the government has their own role to play in order to increase the participation level among societies in pre-cycling, reusing and recycling activities (Sinnappan & Rahman 2011; Ooi et al. 2012). D'Elia (2008) reminded that the facilities and services provided by government should be comfortable to get access.

Besides government roles, Mahat et al. (2015) noticed that teacher's position as change agent and educator also has important role in encouraging sustainable consumption practices not only toward their students but also among people surroundings. Omran and Mahmood (2011) indicated that some people involving in consumption ethics namely pre-cycling, reusing and recycling activities because of encouragement from their children. Moreover, Ooi et al. (2012) found that peer pressure has significant influences on green purchase intention among Malaysian consumers. Based on findings by Ittiravivongs (2011), people's consumption ethics behavior has a tendency meaningfully on consumption pattern of their neighborhood. Ittiravivongs (2011) further explained that people are also hesitate to participate in recycling activities if they felt that recycling is an irregular practice in their neighborhood.

Samarasinghe (2012) and Kollmuss and Agyeman (2002) agreed that cultural values and norms are highly correlated with environmental attitudes and as well play a very important role in shaping people's behavior. Furthermore, Sidique et al. (2010) discovered that educating the communities on recycling was also found as an effective method to improve recycling rate. Ahmad (2012) explained that environmental knowledge in some way can change people's attitude and behavior towards environment. Additionally, Sinnappan and Rahman (2011), Ooi et al. (2012), Samarasinghe (2012) and Anvar and Venter (2014) identified that environmental knowledge, environmental attitude and environmental concern have significant influences on green consumer behavior intention. Hence, environmental education among the public is essential in order to create sustainable quality of life (Ahmad 2012; Ali et al. 2012). Besides, Abdullah et al. (2012) found out that mass media can be the best medium to educate the public about this consumption ethics.

Economic Factor

Kollmuss and Agyeman (2002), Afroz et al. (2008) and Omran and Mahmood (2011) stated that one of the strong influencing factor of consumers' decisions and behaviors is economic factor. Omran and Mahmood (2011) said that some respondents taking part in recycling activities for money. Afroz et al. (2008) clarifies that applying consumption ethics in daily lives can be a great way to earn some extra income. Moreover, Lee, Kurisu, and Hanaki (2013) indicated that monetary saving is reflected as key factors for this pro-environmental behavior. Kurisu and Bortoleto (2011) clarified that a policy of charging method for plastic bags provided by the shop showed significantly higher practice rates of consumers bringing their own shopping bags. In addition, Lockhart (2003) discovered that people who not willing to pay for an additional bag of garbage will keep recycle what they can as long as to keep the costs down.

Religious Factor

Some research conducted by Rice (2006), D'Elia (2008), Felix et al. (2013) and Kadikon and Othman (2010) found that religion as another factor shaping people's behavior in consumption ethics. Rice (2006) noticed that religious teachings and religiosity are shown to be related with pro-environmental behavior. Religion is linked statistically with reasons why respondents recycle (Felix et al. 2013) and seems to be significantly related to recycling behavior (D'Elia 2008) with Catholics recycling more (D'Elia 2008). However, Felix et al. (2013) discovered that Muslim respondents recycle more than Christian and those who do not attend any church because of their own awareness about the important of recycling. Moreover, there is a strong pro-environmental ethics in Islamic teaching (Rice 2006). Kadikon and Othman (2010) explained that consumption ethics i.e., pre-cycling, reusing and recycling activities can be considered an act of worship as these activities avoiding harm to others, avoiding waste, help to sustain the environment for future generations and conserve natural resources to maintain a green and healthy environment.

Political Factor

Political factor is the least influential factor of respondents practicing pre-cycling, reusing and recycling activities. However, past researchers (Lockhart 2003; Nishio & Takeuchi 2005; Afroz et al. 2008; Sidique et al. 2010; Ali et al. 2012; Ooi et al. 2012; Mahat et al. 2015) found that political factor has significant role in consumption ethics. Sidique et al. (2010) indicated that regulations introduced by governments can be a successful ways of increasing recycling. Moreover, the recycling rules and systems developed by the authorities were also crucial to perform consumer's recycling behavior (Nishio & Takeuchi 2005). Lockhart (2003) proved that type of municipal solid waste fee policy has a positive correlation with respondents' participation in recycling activities. Ooi et al. (2012) also discovered that governmental initiatives have significant influences on green purchase intention of consumers. Furthermore, the government had already initiated various concepts and facilities in order to influence societies applying consumption ethics behavior such as organizing recycling program, providing recycling bins and establishing recycling centers (Ali et al. 2012). Mahat et al. (2015) suggested that local authorities should improve recycling centers and increase the amount of recycling bins in their municipal in order to facilitate and encourage communities taking part in recycling program.

CONCLUSION

As a conclusion, this article has recognized the results from the empirical studies. This study revealed that social factor is the most influential factor for Muslim households

in Terengganu in conducting consumption ethics specifically pre-cycling, reusing and recycling activities followed by economic and religious factors. Hence, political factor is the least influential factor towards consumption ethics in Terengganu. Therefore, social approach and economic approach should be considered by any stakeholder either government, private or non-governmental organizations (NGOs) in order to advocate consumption ethics particularly among Muslim community or especially household in Malaysia.

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REFERENCES

Abdullah, M. A., Ali, N., Besar, J. A., Rose, R. A. C., Zamhari, S. K., & Sahdan, Z. F. 2012. Pengetahuan dan amalan kelestarian alam sekitar di kawasan Majlis Perbandaran Sepang, Selangor. *Akademika* 82(3): 41-48.

Afroz, R., Hanaki, K., & Kurisu, K. H. 2008. Factors affecting waste generation and willingness to recycle: A study in a waste management program in Dhaka City, Bangladesh (FEB Working Paper Series No. 0803). Samarahan, Sarawak: Universiti Malaysia Sarawak, Faculty of Economic and Business.

Ahmad, J. 2012. Amalan mesra alam: kajian pengetahuan alam sekitar di Sabah dan Sarawak. *MALIM – SEA Journal of General Studies* 13: 139-154.

Ahmad, J., Mustafa, H., Hamid, H. A., & Wahab, J. A. 2011. Pengetahuan, sikap dan amalan masyarakat Malaysia terhadap isu alam sekitar. *Akademika* 81(3): 103-115.

Ali, H., Ali, N., Ibrahim, M., & Omar, N. 2012. Wanita dan strategi meminimumkan penjanaan sisa pepejal perbandaran. In I. Yussof (Ed.), *Persidangan Kebangsaan Ekonomi Malaysia ke VII (PERKEM VII): Transformasi Ekonomi dan Sosial ke arah Negara Maju* (pp. 792-807). Ipoh, Perak: Faculty of Economics and Management, Universiti Kebangsaan Malaysia.

Anvar, M., & Venter, M. 2014. Attitudes and purchase behavior of green products among generation Y consumers in South Africa. *Mediterranean Journal of Social Sciences* 5(21): 183-194.

Bartl, A. 2014. Moving from recycling to waste prevention: A review of barriers and enables. *Waste Management & Research* 32(9): 3-18.

D'Elia, J.L.I. 2008. Determinants of Household Waste Recycling in Northern Ireland. *Economic Research Institute of Northern Ireland (ERINI)*. Retrieved from http://eservices.afbini.gov.uk/erini/pdf/ERINIMon23.pdf.

De Vaus, D. 2002. *Research design in social research*. London: Sage Publications.

Department of Statistics Malaysia. 2020. Press Release – Compendium of Environment Statistics, Malaysia. 2020.

Felix, A., Asuamah, S.Y. & Darkwa, B. 2013. Are demographic variables determinants of recycling behaviour in Ghana? *International Journal of Innovative Research & Development* 2(7): 382-387.

Gani, B. A., Chiroma, A., & Gana, B. A. 2012. Women and solid waste segregation in Bauchi Nigeria. *Journal of Environment and Earth Science* 2(8): 25-46.

Groves, T. 2008. Reduce, reuse, recycle. BMJ Clinical Research. PubMed Central.

Ittiravivongs, A. 2011. Factors influence household solid waste recycling behaviour in Thailand: An integrated perspective. *Sustainability Today* 167: 437-448.

Inkpen, R. & Baily, B. 2020. Environmental beliefs and their role in environmental behaviours of undergraduate students. *Journal of Environmental Studies and Sciences* 10: 57-67.

Janmaimool, P. & Khajohnmanee, S. 2019. Roles of environmental system knowledge in promoting university students' environmental attitudes and pro-environmental behaviors. *Sustainability* 11 (4270).

Kadikon, S. & Othman, A. R. 2010. Persepsi Pelajar Universiti Teknologi Malaysia Terhadap Program Kitar Semula Menurut Perspektif Islam. Retrieved from http://eprints.utm.my/10908/1/Persepsi_Pelajar_Universiti_Teknologi_Malaysia_Terhadap.pdf

Kollmuss, A. & Agyeman, J. 2002. Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research* 8(3): 239-260.

Kurisu, K. H. & Bortoleto, A. P. 2011. Comparison of waste prevention behaviors among three Japanese megacity regions in the context of local measures and socio-demographics. *Waste Management* 31: 1441–1449.

Lee, H., Kurisu, H. & Hanaki, K. 2013. Influential factors on pro-environmental behaviors: A case study in Tokyo and Seoul. *Low Carbon Economy* 4: 104-116.

Lockhart, S. M. 2003. *Factors affecting participation in city recycling programs* (Unpublished master's thesis). Niagara University, Lewiston, New York.

Mahat, H., Ahmad, S., Ali, N., & Ngah, M. S. Y. C. 2015. Tahap amalan penggunaan lestari dalam kalangan guru di Puchong, Selangor. *Sains Humanika* 5(1): 19-26.

Marican, S. 2005. *Kaedah Penyelidikan Sains Sosial*. Selangor: Prentice Hall.

Mashitoh, Y. 2009. The influence of contextual aspects on New Zealand Muslim males' environmentally ethical behavior (Unpublished doctoral dissertation). University of Waikato, Hamilton, New Zealand.

Michaelis, L. 2000. *Drivers of Consumption Patterns. In: Towards Sustainable Consumption – A European Perspective*, (eds.) Heap, B., Kent, J, 75-83. London: The Royal Society.

Muhamad Azahar Abas & Seow Ta Wee. 2014. Municipal solid waste management in Malaysia: An insight towards sustainability. *Social Science Research Network*: 192-206.

Nishio. C. & Takeuchi, T. 2005. Factors of Household Recycling and Waste Reduction Behavior. In H. Yong-Uon & Y. Youjae (Eds.), *AP - Asia Pacific Advances in Consumer Research Volume 6* (pp. 46-51). Duluth, MN: Association for Consumer Research.

Omran, A. & Mahmood, A. 2011. Attitude of households on recycling of solid wastes: a case study of Penang, Malaysia. *XIX EuCheMS International Conference on Organometallic Chemistry*.

Ooi, J. M., Kwek, C. L., & Keoy, K. H. 2012. The antecedents of green purchase intention among Malaysian consumers. *2012 International Conference on Economics, Business Innovation* (pp. 39-43). Kuala Lumpur, Malaysia.

Periathamby, A., F. S. Hamid, and K. Khidzir. 2009. Evolution of Solid Waste Management in Malaysia: Impacts and Implications of the Solid Waste bill, 2007. *Journal of Material Cycles and Waste Management.* 11: 96-103.

Rahman, S. F. A. 2007. Islam menggalakkan kitar semula. Utusan Online. http://ww1.utusan.com.my/utusan/info.asp?y=2007&dt=0608&pub=Utusan_Malaysia&sec=Rencana&pg=re_03.htm#ixzz3KO1vH0eG.

Rice, G. 2006. Pro-environmental behavior in Egypt: is there a role for Islamic environmental ethics? *Journal of Business Ethics* 65: 373-390.

Saeed, M. O., M. N. Hassan, and M. A. Mujeebu. 2009. Assessment of Municipal Solid Waste Generation and Recyclable Materials Potential in Kuala Lumpur, Malaysia. Waste Management. 29: 2209-2213.

Samarasinghe, R. 2012. The influence of cultural values and environmental attitudes on green consumer behavior. *International Journal of Behavioral Science* 7(1): 83-98.

Sidique, S. F., Joshi, S. V., & Lupi, F. 2010. Factors influencing the rate of recycling: An analysis of Minnesota countries. *Resources, Conservation and Recycling* 54: 242-249.

Sinnappan, P. & Rahman, A. A. 2011. Antecedents of green purchasing behavior among Malaysian consumers. *International Business Management* 5(3): 129-139.

Suraya, H., Mohamad, T.I., Hidayah, S., Rina, M.A, & Azah, A. N. 2017. Social media for environmental sustainability awareness in higher education. *International Journal of Sustainability ih Higher Education* 18(4): 474-491.

Susanto, N., Davidesyta, L., Nurkertamanda, D. & Putranto, T. T. 2019. The influence of behavioral prediction factors in improving 3R (reduce, reuse, recycle) household behavior in Tanjung Mas, Semarang, Indonesia. AIP Conference Proceedings (2019).

Zagonari, F. 2020. Comparing religious environmental ethics to support efforts to achieve local and global sustainability: Empirical insights based on a theoretical framework. *Sustainability*, 12 (2590).