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Attitude towards Recycling Among Business Undergraduate Students in Malaysia

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ABSTRACT

Pro-environmental concern is vital to each nation for continuous survival of future generations. Universities in Malaysia should inculcate pro-environmental behaviour among students since they are the future managers who will design and lead Malaysian organizations with better green strategies which will benefit both the organizations and the country. Objective of this study is probe the recycling behaviour among business undergraduate students in Malaysia. About 370 undergraduate business students from Universiti Malaya (UM), Universiti Putra Malaysia (UPM) and Universiti Utara Malaysia (UUM) participated in the study. The result indicates that the attitude of undergraduate business students on recycling is positive and able to influence their intention to perform recycling activities in their respective university campus. Intent to recycle depends on the sufficient knowledge and information they have whether it is been translated to their mind or behavioural belief.

Keywords: Pro-environmental behaviour, recycling, behavioural intention, higher education institutions, business students

INTRODUCTION

One of major environmental problems faced by most municipalities in Malaysia is solid waste and the amount of waste generated continues to increase in response to rapid increase in population and accelerated urbanisation and industrialization processes. These activities are increasingly causing more damage, and are due to the human actions which cause irreversible harm on the environmental condition [26,10]. Studies revealed that wasteful consumption is the root cause of much of environmental quality degradation through pollution and over-exploitation of resources, and this is the result of the accumulative action of individuals (The National Environment Education and Training Foundation (NEETF)/Roper Report, (1999).

It has been more than 40 years since the first Earth Day and the birth of the environmental movement, but despite widespread support for the environmental cause and increased awareness of the problems [29], human behaviour has hardly changed even with the information about the consequences of human actions, such as climate change, pollution, or diminishing natural resources [15,35]. In other words, the root causes of environmental problems are related to human activities [1]. Therefore, it requires a fundamental change in human activities, which is a shift from reckless to responsible consumption of resources [15].

Previous researches showed that the Malaysian environmental knowledge, environmental concern and awareness are low [31,27]. Pertaining to this, it is reported the awareness program on recycling conducted by the Minister of Housing and Local Government showed that the recycling behaviour among Malaysian is still low (Final Report on National Waste Minimisation in Malaysia, 2006). Although 90 percent of Malaysians is aware of recycling, only 15 percent recycle [21]. A past studies conducted by McDonald found that although respondents favour recycling they did not necessarily translate this into action. Therefore, in order to meet the recycling target, the key is to increase the

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community participation and through understanding of recycling behaviour which seems to mostly voluntary, diverse and susceptible to change [8]. In Malaysia, recycling campaigns failed to produce desired results because of insufficient or lack of public participation [12].

Therefore, in relation to the environmental issues mentioned earlier, the present paper intends to study the recycling behaviour among business undergraduate students in Malaysia which contribute to the understanding of a pro-environmental behaviour of young and educated Malaysian consumers.

2. Literature Review:

2.1 Environmental Concern:

Presently, the world population is approaching 6.5 billion and the need for each of us to make environmentally sustainable choices is critical. We are depleting our natural resources and generating waste at a per capita rate unprecedented in human history. As our population and economy continue to grow, humans are searching for ways that more people to survive on less water, less energy and less waste. Furthermore, the environmental concern about global warming that we are facing today has started since the 1960s as scientists began to track the increase of temperature. For example, greenhouse gases such as carbon dioxide, methane, and nitrous oxide are released into the air when fossil fuels are burnt (such as, by cars, power plants), and waste materials decompose in landfills. Consequently, the trapped energy will create warmer ocean waters, contributing to more storms and melting permafrost, tundra and ice caps. As a result, the sea levels around the world are rising, and temperature changes are contributing to shorter, warmer winters and longer, hotter summers.

This would contribute to health risks (e.g. asthma) that are associated with pollution. In fact, cases of asthma have increased once air pollution and climate changed. In order to reduce this risk, it is best to avoid air pollution by recycling. Most of the behavioural researchers have taken on the challenge of creating pro-environmental behaviours. While some researchers create and evaluate the efficacy of behavioural interventions in order to change environmentally related behaviours [3,20], others investigate who is most likely to take part in pro-environmental behaviours and under certain conditions [5,18,30]. Therefore, those researchers may help to provide a broader understanding of factors related to pro-environmental behaviours including recycling behaviour.

2.2 Students and Pro-Environmental Behaviour:

The higher education setting involves many individuals who behave in ways that are contingent upon one another. After all, it is a powerful determinant of influence; students often study together, play together, work together, and eat together. In fact, some students are particularly influential among their peers. Students for example, are sensitive to the physical campus surroundings. When students see how dormitories dispose of waste, they receive a message; it is part of the campus's hidden curriculum [25]. The college campus thus presents an ideal place to study how social context affects the recycling behaviour.

Students have always played an active role in the activities leading to the development of environmental awareness on recycling. Several studies have been carried out to understand the attitudes and recycling behaviours of students. In addition, the fact that students will be the ones who will manage and consume future resources has been effectively promoted studies related to students. It is possible to infer two different results from these studies. First, although the environmental attitudes of the students are very developed, their recycling behaviours are affected by the economic concerns [8,12,13]. Second, developed environmental awareness of the students reflect their recycling behaviours in the same level [16].

Tertiary students represent a population with the intellectual capability to assimilate the concept of sustainability and, therefore, students need to comprehend it so that they can become better stewards in the future [32]. In fact, having knowledge alone is not sufficient in today's society but the important thing is to apply their knowledge to solve problems [7]. In fact with the knowledge attained, an educated person shoulders the responsibility to ensure the knowledge is well used by society. This shows the important role of the tertiary sector in providing and imparting a comprehensive environmental knowledge and information to students especially inculcating the recycling behaviour in their day to day life in campus and residential colleges.

Understanding university students' attitudes and behaviors related to social issues is critical in order to reduce the considerable estrangement of young people from public life. Bok [9] argued that public apathy is the norm among university students. Providing knowledge that can help to inform a more sustainable future also directly aligns with the public and social purposes of higher education. Kerr [17] articulated, "As society goes, so goes the university; but also, as the university goes, so goes society", which suggests the university's obligation to attentively heed the national public dialogue and highlights the university's critical role in guiding change. If students can be empowered as citizens in the context of university then they will likely become empowered citizens in the larger society [4].

College and university graduates are citizens of a global community and they are expected to be articulate, skilled in principles and understanding sustainability once they take over a business/corporate job [23]. Colleges and universities are places to educate members of society, including future leaders, by increasing public awareness on environmental issues and to increase their knowledge on recycling behaviour. The question arises as to why this study focuses on undergraduate business students? Business is a social profession and previous studies showed that a business degree has a better market value. Business managers who apply sustainable principles in their business practices will be able to spot and indicate more profits [23]. Therefore, if a student is exposed to examples of good practices and supported with sufficient environmental knowledge techniques and principles, including the benefit to recycle they will not ignore the environmental agenda/policy once they become managers or entrepreneurs [33]. And today's business students are the future managers and business leaders [6,14].

As future managers and business leaders, business students need to be taught and be exposed to environmental issues to enable them to transform ideas and strategies and blend them into cohesive green strategy. Previous researches on recycling activities in a university showed that they have significantly increased university's energy efficiency, reduced its waste, and bolstered the university's sustainability image [19,28]. However, a related recycling research finding by Olson, Arvai and Thorp [24] demonstrated that students displayed complete understanding of items which could be recycled on campus, knew specific collection point for recyclables, and were aware of recycling opportunities at the campus recycling facility.

3. Methodology:

This research adopted a non-probability sampling using the convenience sampling since the information collected from the samples are conveniently available. Samples of undergraduate business students from the Faculty of Business/College of Business from Universiti Malaya (UM), Universiti Putra Malaysia (UPM) and Universiti Utara Malaysia (UUM) were identified. Convenience sampling is the best way of collecting information quickly and efficiently [11]. The samples of undergraduate business students were from three (3) public universities. These groups of undergraduate business students were selected based on several reasons; 1) they have completed business ethic courses/modules, 2) they have adapted themselves the condition of the campus environment, and 3) they have been exposed to management rules and regulations related to recycling issues.

A total of 500 sets of questionnaire had been distributed to students in three higher education institutions, and 410 (82 percent) questionnaires were returned. After, subsequent data screening, only 370 questionnaires (74 percent) were used for coding and analysing purposes.

4. Findings:

Table 1 shows the summary of respondents' demographic profile.

Table 1: Respondents' Demographic Profile.

Profiles	Categories	Frequency	Percentage
Gender	Male	94	25.4
	Female	276	74.6
Age Group	18 – 20	65	17.6
	21 – 30	303	81.9
	31 – 40	2	0.5
Marital Status	Single	358	96.8
	Married	10	2.7
	Others	2	0.5
Institutions	UUM	205	55.4
	UM	81	23.5
	UPM	84	22.7
Year of Study	First year	57	15.4
	Second year	87	23.5
	Third year	119	32.2
	Fourth year	105	28.4
	Missing	2	0.5
Resident	On Campus	330	89.2
	Off Campus	43	10.8
Hometown Status	Rural	170	45.9
	Urban	192	53.9
	Missing	2	2.2

The sample consisted of 370 undergraduate business students registered in three public universities (Universiti Malaya, Universiti Putra Malaysia and Universiti Utara Malaysia). The majority of the sample were female (n = 276; 74.6 percent) as compared to male (n = 94; 25.4 percent). This distribution is the true reflection of registered students in most public institutions of higher learning in Malaysia with the majority of females pursuing tertiary studies as compared to male students. With regard to age, the majority of the samples were between 21 to 30 years old (n = 303; 81.9 percent), followed by the 18 to 20 years old range (n = 65; 17.6 percent), and 2 students (0.5 percent) were between 31 to 40 years old. The respondents' marital status was predominantly single (n = 358; 96.8%) which reflects the real population proportion of students in higher institutions in Malaysia that registered in the undergraduate programs, and only 2.7 percent (n = 10) were married.

Most of the respondents were from Universiti Utara Malaysia (n = 205; 55.4 percent), followed by Universiti Putra Malaysia (n = 84; 22.7 percent) and Universiti Malaya ((n = 81; 21.9 percent). This is due to the sampling frame of respondents registered in faculty/ school of business in those universities, where the total number of business students in Universiti Utara Malaysia is 4228 students (65 percent), Universiti Malaya registered only 1092 students (16.8 percent) and Universiti Putra Malaysia only 1165 students (18.0 percent). Majority of the respondents were in their third year (n = 119; 32.2 percent), followed by fourth year (n = 105; 28.4 percent), second year (n = 87; 23.5 percent), and first year students (n = 57; 15.4 percent). About 330 (89.2 percent) respondents stayed on campus whereas 40 (10.8 percent) respondents stay outside the campus. Most of the respondents were from urban areas contributed 51.9 percent (192 respondents) and 170 respondents were from rural areas (45.9 percent).

4.1 Descriptive Analysis:

Descriptive analysis was able to provide an overview of the respondent's perception of the variables. The means and standard deviations of the study variables are shown in Table 1.2. There were five variables; independent (3), mediator (1) and dependent (1). The mean score of less than 3.00 {(6/3 + lowest value (1)} was treated as low; mean score of more than 5.00 {(highest value (7) - 6/3} was treated as high and those values in between 3.00 to 5.00 were treated as moderate level.

Overall, the results demonstrated that the mean scores for individual items are ranging from as below as 4.66 (moderate level) to the highest of 5.86 (highest level) and no low level of mean score. Attitude towards recycling (5.68), subjective norm (5.19) and behavioural intention (5.27) recorded high level mean score. Recycling behaviour and perceived behaviour control recorded moderate level at 4.85 and 4.36 respectively. This implicates that all independent variables (attitude towards recycling, subjective norm and perceived behaviour control) influence dependent variable (recycling behaviour). The high mean scores (5.27) of the mediating variable conform that behavioural intention mediates all independent variables to recycling behaviour. The descriptive statistic for each item is shown in Table 2 and for principal construct as shown on Table 3.

Table 2: Descriptive Statistic for Each Variable/Item.

Variables / Items	Mean	SD
Attitude towards Recycling		
I believe it is importance for students to recycle paper, cans and glass as much as possible.	5.76	1.827
I believe it is importance for students to purchase paper products made from recycled paper.	5.85	1.232
I believe it is important for students to purchase eco-products that are environmentally safe.	5.41	1.559
Subjective Norm		
Most people who are important to me think I should recycle more.	5.23	1.367
Most people who are important to me think I should conserve the environment by recycling.	4.90	1.410
Most people in the university who are important to me think the natural environment is valuable and should be protected at all costs by conducting recycling activity.	5.37	1.291
Perceived Behaviour Control *(Recode to Positive)*		
Something can be done to increase recycling in university.	4.92	1.365
I like to participate in environmental activities such as recycling in the university if they make my life more difficult.	4.66	1.193
Behavioural Intention		
I intend to recycle	5.28	1.248
I intend to exercise by bringing my own container or reuse bags to university mall	5.38	1.393
Recycling Behaviour		
I should bring my own container or reuse bags at the university mall.	4.92	1.393
I collect and recycle used paper.	4.75	1.440
I take empty bottles to a recycling bin.	4.69	1.551
I should recycle paper, glass and/or metal waste products at the university or at home.	5.15	1.225
I would support the university policy that eliminates the use of paper cups and requires students to bring their own mug or container.	5.05	1.352
I talk to people that I notice doing something that harms the environment in an effort to persuade that person to stop the activity and do some recycling activity.	4.71	1.349
I should set a positive environmental example (recycling) for my friends to follow.	5.22	1.297
I would support a university policy that adds a recycling fee to my course fees in order to support campus recycling/eco-friendly campaign.	4.52	1.841

The highest mean scores among is item are from the attitude towards recycling dimension (5.85). The highest item is '*I believe it is important for students to recycle paper, cans and glass as much as possible'*. This implicates that the respondents believed the importance of recycling and reusing recycled products for the benefit of the organization and the community. The lowest mean score item was 4.66 (moderate level) from the perceived behaviour control item '*I like to participate in environmental* *activities such as recycling in the university if they make my life more difficult'* (positive statement), and if the statement is in negative statement the mean score is only 3.64. This implicate that the respondent felt that the success of the recycling activity is the university's responsibility and students have low influence towards these issues. This is in line with the findings by Omran *et al.* that stated most of the households in Alor Setar, Kedah felt that the environmental issue is the government's responsibility and no so much of theirs. In fact, recycling is not compulsory but only a voluntary effort. However, if a student wants to recycle but the facilities is not provided by the university then he/she is unable to perform this behaviour. Therefore, it is university responsibilities to provide recycling bins and reward to students that perform recycling in the campus.

5. Discussion:

Based on research findings, it shows that the attitude towards recycling has the highest influence on respondents as compared to other independent variables i.e. subjective norms, perceived behaviour control, behavioural intention and recycling behaviour. This implicates that once the respondents possessed a positive attitude towards recycling, the possibility of them to recycle will be higher. However, their attitudes towards recycling depend on the level of knowledge and information they have on the importance and benefit of recycling.

This was followed by behavioural intention, whereby, respondents seem to demonstrate their high intention and commitment towards recycle. Subjective norm is next with 5.19 mean value, which depicts the level of influencing role of other individuals or medium, on the respondents' recycling behaviour. Recycling behaviour itself does not show a high mean value (4.85) but still positive. Thus, this positive moderate value implicates the tendency of respondent to engage and perform recycling behaviour activities once in a while, particularly in the campus vicinity. Finally, perceived behaviour control shows a reading of 4.56 which is the lowest of all the variables' mean value. Hence, it can be said that respondents show a moderate satisfactory control of their behaviour over recycling activity.

The standard deviations for all variables seem to fall between the ranges of 0.960 to 1.468, which reflect the existence of considerably acceptable variability within the data set. This indicates that all answers on the studied variables were substantially different from one respondent to another, thus signifying the existence of tolerable variances in responses (Refer Table 3).

Table 3: Descriptive Statistics of all Principal Constructs (N=370).

Variables	Mean	SD	The results represent that respondent…..
Attitude towards Recycling	5.68	1.00	Have a high positive attitude on recycling
Subjective Norm	5.19	0.98	Friends play an important role in influencing respondents
Perceived Behaviour Control	4.56	1.46	Have a satisfactory control over recycling activity
Behavioural Intention	5.27	0.96	Have high intent and committed to recycle
Recycling Behaviour	4.85	1.16	Frequently engage and perform recycling behaviour activities

6. Conclusion:

In general, the finding of this study indicates that the attitude of undergraduate business students on recycling is positive and able to influence their intention to perform recycling activities in their respective university campus. However, their intent to recycle depends on the sufficient knowledge and information they have whether it is been translated to their mind or behavioural belief. It is believed that if the students are exposed to any environmental activities then their intention to participate and preserving the environment would be greater. As discussed by Ajzen [2], attitude is one of the primary determinants of intention and therefore the chances for undergraduate business students to engage in recycling activity are better.

Thus, to increase positive recycling behaviour among students, universities should undertake several important strategies; (1) continuously promoting sustainable practices in campus i.e. saving electricity, using recycle water for plants, providing recycle bins to all dormitories, etc., (2) the universities' top management should be more committed in promoting and ensuring the success of environmental campaigns which should be conducted every semester to ensure consistency of positive behaviour among existing and new students, (3) encourage students to participate or involved directly in all environmental campaigns done in campus area, starting with the student dormitories area first, (4) improve the universities' environment to reflect the seriousness of the top management and staff (both supporting and academic) about pro-environmental activities, and (5) provide information on the benefits of recycling and where to recycle to all students and staff.

Overall, pro-environmental behaviour is not something to be taken for granted by all the universities, since the students that they eventually produced are the future managers of the country, who will shape and lead the country to become more sustainable in the global arena for many generations ahead.

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