

[LOG 7] THE AWARENESS UNIVERSITY OF SUSTAINABLE TRANSPORT AMONG STUDENTS: CASE STUDY UNIVERSITI UTARA MALAYSIA (UUM)

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ABSTRACT

In the 21st century, the issues of need and implementation of sustainability have become a serious topic among scholars in different communities. Environmental issues are considered important to ensure the sustainable transportation. By providing knowledge about sustainable transport to students, it is expected to promote awareness towards sustainable transport among them. This study aims to identify the level of awareness with regard to sustainable transport among undergraduate students in Universiti Utara Malaysia (UUM). Theory of Planned Behaviour (TPB) was established by Ajzen is utilized as the underpinning theory. The predictor variables involve in the study are attitude, subjective norm, and perceive behavioral control. The data were collected from 400 of the full – time undergraduate students of UUM through a self – administered questionnaire obtains the result. The total of undergraduate student study at UUM approximately 2364. The findings revealed that the three variances which are attitude, subjective norm and perceive behavioral control were the factor create the awareness of sustainable transport among university students due to a significant result from correlation analysis that shown p-value was less than 0.001 and help to develop a better understanding of the student’s awareness of sustainable transportation.

Keywords: *sustainable transport, Theory of Planned Behaviour, environment*

INTRODUCTION

Background of study

Sustainable transport or green transport was any transportation, which produces less dangerous impact to the environment and does not involve non-renewable. For example, walking, carpooling, cycling, transit-oriented development and others form of secure system that were less fuel consume, low cost, space efficiency, and also promote a healthy lifestyle (UK Essays, 2015). Sustainable transport involves efficient and effective resource usage, changes in transport, structure and making healthier travel choices. That requires enhanced public awareness and involvement, development control of private and vehicles that using renewable energy sources like wind, solar, biofuels or electricity (CFE Conserve Energy Future, 2016).

Problem statement

Based on an article by Conserve Energy Future (2016) it states “almost 23% of the world’s total carbon dioxide emissions from fossil fuel combustion. Of these total

carbon dioxides emissions, road transport accounts for 75% and this share is increasing every day.” This leads to a warmer climax and greenhouse emission. In the long term, it will give a negative impact on the environment. This is why we need sustainable transport to reduce total carbon dioxide emission.

University is the best place for implements the sustainable transportation system. The university is known as “small cities” which will have a direct and indirect impact on environments their larger-size population and various activities being carried out on campus (Alagbe & Alalade, 2013). It’s because, nowadays young people easy to influence. So, university might can be a subject or do activities that can create awareness among the young people. Besides that, the university is chosen as our research scope because the university places young people which represent as tomorrow’s adult. So, the concept of sustainable transport should implement start from the educational institute. Therefore, university can be the ideal hub for idea’s development in term establish awareness, integrate sustainability into daily life (Jain & Pant, 2010).

Research question

The research question for this study is “do the university student attitude’s, subjective norms, and perceived behavioral control influences university students’ decisions to using sustainable transport?”. Research question normally will ask more detail on the questionnaire that is distributed to the student that as our despondence.

Objective of study

The objective of study for this research is to determine the relationship between attitudes, subjective norm and perceived behavioral control and the awareness of sustainable transport among university student. These objectives of study act as a guide for the research.

LITERATURE REVIEW

Awareness of sustainable transportation

In the past, concerns transported efficiently, particularly focusing on areas such as route optimization, capacity planning, and cooperation partners. Today, efforts to improve service and reduce costs, including additional elements towards the environmental impact. As a new and aggressive pressure of social, environmental and political progress, shippers and carriers must accept and act on opportunities for "green". Failure to do so will create it significantly more difficult for companies to operate in this new era of environmental awareness and social responsibility (Frank Monte, 2008).

Theory Plan Behaviour

Icek Ajzen (1988) developed Theory Planned Behavior and this theory was an extension to the Theory Reasoned Action (TRA) that it is based on the based upon the assumptions were ones will usually behave in a sensible manner through considering the implication of the action (Ajzen, 1985). This theory is found not to be adequate and had several limitations as TRA only works successfully under individuals’ volitional control. Hence, TPB was developed by adding the third element, which is perceived behavioral control in the deal with behaviors over the people has incomplete desire control (Ajzen, 1991). Based on TPB, the motive to perform a behavior is affected by

three factors where they are the psychological concepts that independent of each other includes attitude towards the behavior, subjective norm, and perceived behavior control.

Furthermore, there is a profound misunderstanding of TPB, misinterpret of negative findings and fail to place the work properly in applying TPB (Ajzen, 2014). Consequently, TPB has proven and maintained to be suitable for understanding human behavior even though there are critics from Sniehotta argued on TPB's failures.

Attitude

Based on Allport (1935), the attitude was defined as a moral and mental state of readiness. Normally, this state of mind affects the reaction of the audience towards all situations and object with which the audience is confronted. One continuation of this phenomenon has been appropriate undertaken by Schultz and Zelezny (2000), that define it by bringing into account the attitude towards environmental concerns.

Determinants of behavioral intention were the first to explain on the Theory of Planned Behavior (TPB). That's the standard to which the person has a favorable or unfavorable estimation of the behavior in question (Mir & Rehman, 2013). An attitude also can describe an individual's feeling either positive or negative when a person was performing on certain level or target (Mehra & Omidian, 2011). While measuring attitudes based the act, Ajzen (2006) proposed starting with a relatively large set of 20 to 30 semantic differential scale toward on a list published at the time-tested scale adjective. A small subset of internal consistency of the scale of the show can then be selected to measure the attitude of the end.

Subjective norm

Subjective norm (SN) creates social perceived was seen either it engages or not engage in behavior (Ajzen, 2006). Basically, subjective norm determined by the total set of beliefs about the normative expectations of referring to the material accessible. In specifically, the strength of the each normative belief weighted through the motivation to comply with the product collected and the relevant references (Ajzen, 2006). Normative referents can be elicited through questions about some groups of people that would be approved or disapprove through the specific behavior of the individual performing.

Intention to act towards the behavior of a person will have greater if the more positive subjective norms (Saouza, Sanches & Ferreira, 2014). The intention will be higher as there is more support for subjective norms (Krithika & Dr. B. Venkatchalam, 2014). This is because subjective norms function as a force pushing one to perform in a particular way (Bagozzi, 1992). However, there is another study that involved subjective norm, but it appeared no significant effects on behavioral intention (Chau & Hu, 2002). There was no proved for subjective norm as a predictor of intentions, after controlling for other variables is worth considered (Cooke, Sniehotta & Schuz, 2006).

Based on the Theory Reasoned Action the weakest link was the relationship between norm and intention (Johnston & White, 2004). According to Trafimow and Finlay (1996), the minorities of people are under normative control, which leads to failure in considering these minorities that create a small but consistent effect.

Perceived behavioural control

People's perception was referred to perceived behavioral control of their capability to perform at some behavior (Ajzen, 2006). These constructs include the perceived ease or difficulty of a friend of a certain task or behavior. Planned Behavior in theory, The amount set access control factors that determined by Perceived Behavioral Control can facilitate or hinder performance behavior. In particular, the strength of each trust control (c) weighted by the power aware (p) factors control, and the product collected (Ajzen, 2006). Certain things had been done with a person's sense of self-efficacy toward a specific behavior, and other items measure a person's perceived controllability of the behavior.

Based to Terry and O'Leary (2011), defined perceived behavioral control as the extent to which a person feels to enact the behaviour or people's assumption about their capability to perform the behaviour. Then, to those who have higher degrees of perceiving of personal capability and control tends to have stronger behavioral intentions to engage in some behaviour (Ajzen, 1991). According to (Ajzen, 1991), perceived behavioral control was considered as a crucial element predicting consumer's intentions to conduct behaviors. In addition, results of research made by Suki & Suki (2015) showed that the link between perceived behavioral controls positively affects students' intention. Thus, this research has to conduct to determine whether perceived behavioral control will affect the intention of students in using the sustainable transport system on campus.

METHODOLOGY

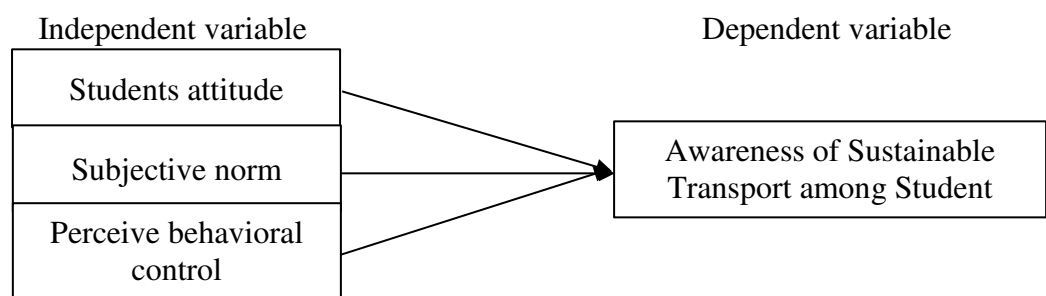


Figure 1
Awareness of sustainable transport among student

Research hypothesis

- H1: There is a relationship between student's attitude and awareness of sustainable transport among students.
- H2: There is a relationship between students' subjective norm and awareness of sustainable transport among students.
- H3: There is a relationship between student's perceive behavioral control and sustainable transport among students.

Research design

Basically, this research is designed to follow non-experimental, that do not involve manipulation of circumstances, situation, and experience of the respondent. A correlation study is chosen to investigate the relationship between independent variable

and dependents variable, while the quantitative approach is used to conduct the research. Quantitative research is conclusive in its purpose, as it tries to quantify a problem and understand how prevalent it is by looking for predictable results to a larger population. (Michaela Mora, 2010). The unit of analysis in the study is individual as the data is collected from student individually. In the research, a cross-sectional study was adopted.

Measurement scale

A set of structured questionnaires with Likert five-point rating scale was used. This scale is used to indicate the agreed of agreement for each criterion, with 1 (strongly disagreed) as a minimum and 5 (strongly agreed) as the maximum. The construction of the questionnaire is adapted from Bipul Kumar (2012) which based on the TPB model approach.

FINDINGS

Four hundred undergraduates UUM students were surveyed about their awareness of sustainable transport.

Table 1
Croanbach’s alpha value of variables

Variables	Item	Alpha Cronbach Value
Attitude	7	0.873
Subjective Norm	7	0.839
Perceived Behavioural Control	6	0.698
Awareness	7	0.737

According to Sekaran and Bougie (2013), reliability less than 0.6 are considered to be poor, those in 0.7 is acceptable and those over 0.8 are good. In the research, Cronbach’s alpha for the four variables score ranges from 0.698 to 0.839 as shown in Table 1. Hence, all the variables have been proven to be reliable and consistent.

Table 2 shows the correlation result between independent and dependent variables. Referring to the table, the p-value for all the four variables is equal to 0.000 at which it is less than α value of 0.01. So, there is a statistically significant correlation between independent variables (attitude, subjective norm and perceived behavioral control) and dependent variable (awareness) respectively. There is a significant relationship between all the independent variables and awareness.

Table 2
Correlation between independent and dependent variables

		Awareness	Attitude	Subjective Norm	Perceive Behavioral Control
Pearson Correlation	Awareness	1.000	.461	.367	.414
	Attitude	.461	1.000	.414	.864
	Subjective Norm	.367	.414	1.000	.393
	Perceive Behavioral Control	.414	.864	.393	1.000
Sig. (1-tailed)	Awareness	.	.000	.000	.000
	Attitude	.000	.	.000	.000
	Subjective Norm	.000	.000	.	.000
	Perceive Behavioral Control	.000	.000	.000	.
N	Awareness	400	400	400	400
	Attitude	400	400	400	400
	Subjective Norm	400	400	400	400
	Perceive Behavioral Control	400	400	400	400

Table 3

Model	R	R Square	Adjusted R Square	Std.Error of the estimated
1	.250	.244	.52781	.250

Table 4
Anova table^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	36.790	3	12.263	44.020	.000 ^b
	Residual	110.320	396	.279		
	Total	147.110	399			

a. Dependent Variable: Awareness

Table 5
Coefficient table

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	1.408	.180		7.841	.000					
Attitude	.367	.094	.343	3.920	.000	.461	.193	.171	.247	4.044
Subjective Norm	.195	.044	.212	4.418	.000	.367	.217	.192	.824	1.214
Perceive Behavioral Control	.034	.085	.035	.399	.690	.414	.020	.017	.252	3.962

a. Dependent Variable: Awareness

A linear regression was calculated to predict the student awareness about sustainable transport based on their attitude, subjective norm and perceive behavioral control. There is a significant relationship between the independent variable and dependent variable, where $F=3.396=44.020$ while p-value ($P<0.01$)

DISCUSSION

The research framework theory was attitude, subjective norm and perceive behavioural control will influence student awareness to use sustainable transport based on the Theory of Planned Behavior (TPB). The results from this study will support the model where the statistical result shows all independent variables were significantly correlated with awareness. All TPB elements were significant as predicted. Subjective Norm as the strongest impact of awareness ($r=0.367$, $p<0.01$) followed by Perceive Behavioral Control ($r=0.414$, $p=0.01$) and Attitude ($r= 0.461$, $p<0.01$). Based the finding of the study, Subjective Norm has significance a significance influence to awareness.

CONCLUSION

As conclusion, the study of the awareness of sustainable transport among university students is significant in order to know the awareness level of the young students in Universiti Utara Malaysia. This research is significant due to university is the educational medium and come from different communities. Thus, the university must have sustainable must have a sustainable development plan for their campuses to define a sustainable living community. The findings indicate that the student attitude, subjective norm and perceive behavioral control influenced their awareness towards sustainable transport. All TPB elements were significant as predicted. The result from this study supported the model where the statistical result shows all independent variables were significantly correlated with awareness Thus, to enhance the awareness among students towards sustainable transport, the three elements which have been coming out by TPB theory should be concerned since this element were a significant

relationship to the awareness. Further studies should be set up about how this three element can implement the community's intention to use sustainable transport.

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