Intention to Purchase Green Electronic Products: The Consequences of Perceived Government Legislation, Media Exposure and Safety & Health Concern and the Role of Attitude as Mediator

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Abstract—**This study intends to contribute to the body of knowledge in the area of green product purchase intention, within the domain of green marketing, where all activities are designed to generate and to facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs or wants occurs, with minimal detrimental impact on the natural environment. Therefore, this study intends to identify the influence of three independent variables including; perceived government legislations, media exposure, and safety and health concerns on the mediating variable of environmental attitude. The study will also investigate the mediating effect of environmental attitude and the dependent variable of the study purchase intention of lead-free electronic products. Through a self-administered questionnaire among 170 lecturers, from USM main campus and USM engineering campus the study found some revealing insights. Through the results of this study, perceived government legislation did influence neither environmental attitude nor purchase intention, while media exposure had a positive direct influence on purchase intention. As for safety and health concerns exhibited a significant positive influence on lecturers' environmental attitude. Finally, environmental attitude the mediating variable of this study, did not act as a mediator between the independent variables and the dependent variable of purchase intention.**

Index Terms—**Green Electronic Products, Perceived government legislations, Media Exposure, Safety and health, Attitude, and Purchase Intention.**

I. INTRODUCTION

The use of vast amounts of hazardous materials in the high-tech industry in fueling its global expansion of the rapidly changing product lines is significantly depleting natural resources. Therefore, society is becoming more concerned with the natural environment and businesses have a begun to modify their behavior in an attempt to address society's new concerns [11]. Hence, [39] defines green or environmental marketing as all activities that are designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on

the natural environment. Therefore, the phenomena of this study reveals the dark side of high technology, polluted drinking water, waste discharges that harm fish and wildlife, high rates of miscarriages, birth defects, and cancer clusters in another word it has a direct impact on the environment and an indirect impact on the consumer via drinking water [35]. However, this study intends to identify the problem of pollution, which is caused by the disposal of high-tech electronic products at the end of the products life cycle. Hence, lecturers are considered relatively heavy users of electronic products; therefore, their intention to purchase green electronic products and in this case Lead-free electronic products is the focus of the study.

In Malaysia, the electronic industry accounts for around 60% of the country's manufacturing exports and is the leading industrial sector in terms of investment, industrial output and employment. Major export products were electrical & electronic products with a total value of US$ 69.9 billion, representing 49.6% of Malaysia's global export. In terms of products, Malaysia's main imports were electrical & electronic amounted to US$ 51 billion representing 44.5% of Malaysia's global import. Although Malaysia is a major exporter of electrical and electronic products, at the same time Malaysia imports electric and electronic products into the country. The products are used and disposed off as regular garbage at the end of the products life-cycle [31].

In Penang, [22] the research Officer of Consumers Association stated at PCBs symposium in Malaysia, "Given the many applications of PCBs (Polychlorinated biphenyl) in industries it is likely that products and equipment that contained PCBs would be disposed off as regular garbage. This is because there has not been much concern given to the disposal of hazardous household waste such as electrical equipment or products which are likely to contain PCBs in Malaysia". PCBs are made up of more than 200 related compounds these manufactured substances exhibits many ideal characteristics such as fire resistance, high stability. They also do not conduct electricity and have low volatility at normal temperature. These and other properties have made them desirable components in a wide range of industrial and consumer products. These same properties make the PCBs environmentally hazardous- especially their extreme

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resistance to chemical and biological breakdown by natural process in the environment. Due to their stability, PCBs have a high potential for bioaccumulation it is able to accumulate in aquatic environments such as lakes and rivers.

As early as 1985 tests conducted on shellfish collected from sea bed around Penang island showed PCBs content to be in the range of 400 - 600 ppb. The amount of PCBs detected exceeded the permitted level set by the Food and Drug Authority (FDA) of 300 ppb. In 1992, tests conducted on 25 rivers in Peninsular Malaysia for PCBs residue showed that the amount was higher in the rivers that flow through industrial or densely populated area. The amount of PCBs detected was found to be in the range of 2.1 - 0.9 milligram per liter. This exceeds the level in the Proposed Interim National Quality Standards for Malaysia, which sets a standard of 0.044 milligram per liter of PCBs in effluents [22]. Hence, this study intends to explore firstly, the factors that influence lecturers' environmental attitudes, which is measured by three independent variables; perceived government legislations, media exposure safety and health concerns. Secondly, to examine the mediating effect of environmental attitude on the relationship between the three independent variables and the dependent variable of purchase intention.

II. LITERATURE REVIEW

A. Behavioral Intention

Behavioral intention has been defined by [4] as human actions that are guided by three kinds of considerations; beliefs about the likely outcomes of the behavior and the evaluation of these outcomes(behavioral beliefs), beliefs about the normative expectations of others and motivation to comply with these expectations (normative beliefs), and beliefs about the presence of factors that may facilitate or impede performance of the behavior and the perceived power of these factors(control beliefs). As a general rule, the more favorable the attitude and subjective norm, and the greater the perceived control, the stronger should be the persons' intention to perform the behavior in question. As for consumers' purchase decision, [24] argued that, in the evaluation stage, the consumer ranks brands and forms purchase intentions. Generally, the consumer's purchase decision will be to buy the most preferred brand. However, two factors can come between purchase intention and purchase decision the first factor is the attitude of others and the second factor is unexpected situational factors for example; the consumer may form a purchase intention based on factors such as expected income, expected price, and expected product benefits. In addition, [32] identifies behavioral intention as a function of both attitudes toward a behavior and subjective norms toward that behavior, which has been found to predict actual behavior. Hence, this study conceptualized purchase intention as a person's plan to engage in some action within a specified period of time and the probability that he or she will perform a behavior. Therefore, lecturers purchase intention of lead-free electronic products will be investigated through three independent variables; perceived government legislations, safety and

health concerns, and self-efficacy and one mediating variable of environmental attitude.

B. Perceived Government Legislations

According to [38] anticipating rising world demand for environmental marketing, services and systems is also an obligation and opportunity for government. Indeed, there is a crucial role for government in facilitating the transition to an economy that is much more efficient, much fairer and much less damaging. Governments that lead will be in a stronger position to set the agenda and establish advanced positions for their industries and their citizens. Countries that lag behind will inevitably face increasing competitive disadvantage and lost opportunity. Hence, the growing public concern over the environment creates an enormous amount of pressure on governments to act whether this action is based on market initiative and cost effectiveness or legislatively mandated command and control will make a huge difference in the ramifications for the industry, consumer and the general economy [14]. As with all marketing related activities according to [39] governments want to "protect" consumers and society; this protection has significant green marketing implications. Governmental regulations relating to environmental marketing are designed to protect consumers in several ways;

1) Reduce production of harmful goods or by-products.

2) Modify consumer and industry's use and/or consumption of harmful goods.

3) Ensure that all types of consumers have the ability to evaluate the environmental composition of goods. In some cases governments try to persuade consumers to become more responsible. For example, in the United States of America governments have introduced voluntary curb-side recycling programs, making it easier for consumers to act responsibly. In other cases governments tax individuals who act in an irresponsible fashion. For example in Australia there is a higher gas tax associated with leaded petrol.

C. Media Exposure

Most researchers agree that media have played a major role in the widespread dissemination of environmental concern [27] & [28], the amount and type of media coverage of environmental disasters and conflicts has helped transform many specific problems into a major public issue. Hence, [29] argued that advertisers use a variety of media to communicate product benefits to a target audience. For example, television commercials may be used for product demonstrations, print advertisements may be used to communicate information that is more detailed and to establish a brand image, and product packaging may be used to attract consumers at the point of sale [8].

The uses of these media are often coordinated into a single integrated communications campaign However, [42] defined media exposure as any opportunity for a reader, viewer, or listener to see or hear an advertising message in a particular media vehicle. Media exposure is an important driver of the innovation diffusion and has a significant impact on innovators [5]. Media exposure's most powerful effect on diffusion is that it spreads knowledge of innovations to a large audience rapidly [40]. According to [15], no one

disputes the fact that media can help alter behavior and beliefs. What is important to keep in mind, however, is that most of those effects are small and, if truly effective, accumulative. In other words, tiny bits of information add up. Repetition of a message, its consistency over time, and apparent corroboration can help shift public opinion over the long-term. This process has helped change attitudes and behavior in a variety of contexts, some for the better, and some for the worse.

D. Safety and Health Concerns

Safety and health concerns are conceptualized as the consumer's concern for quality of life, health issues and the environment for humans and non-human species. However, it seems that given the broad problems that are defined as environmental issues, the probability that individuals will be affected by one or more of these issues is high [19] & [33]. In addition, there is also evidence to suggest that people believe environmental conditions are worsening for example, (water pollution, and air pollution) [17]. Hence, Concern for quality of life has given way, in many cases, to concern about heath issues, and life itself, for human and non-human species [17]. Thus, the diversity and intensity of environmental problems as experienced by the public, are themselves proposed as an explanation for the widespread nature of environmental concern. According to [49], safety and health concerns are considered the strongest predictor of attitude and behavior; her findings lend support to those researchers who claim that increasing concern with health and safety are becoming prominent factor in shaping people's attitudes towards the environment. However, [41] carried out a study aiming to analyze how health attitudes, environmental concern and behavior are influenced by risk perception. The findings of the study concluded that the respondents felt most unsafe regarding chemical food additives, infected food, industrial pollution and risks related to traffic behavior.

E. Environmental Attitude

Widespread environmental concern has not disappeared among the public as predicted by social scientists, such as Downs, in the early 1970s. Instead, it rose dramatically in the 1980s, and by the spring of 1990, public environmental concern had reached unsurpassed levels [17]. However, recent research suggests that despite high levels of "green attitudes" environmental concern has failed to translate into widespread environmental action [17] & [48]. More than two decades of environmental attitude, research has resulted in a multitude of studies dedicated to discovering the social determinants of environmental attitudes [47] & [10]. In addition, [49] argued that during the last few decades, the relationship between human beings and the environment has been an important issue because natural resources have been used up at a faster pace than they can be restored. However, it seems that much less consistency has been found between environmental concern and environmental behavior [37]. That is, individuals expressing high levels of environmental concern and pro-environment attitudes often display behaviors and actions that have low levels of congruency with their expressed views. Moreover, many of the variables that shows some consistency with respect to environmental

attitudes, display weak or inconsistent relationships to environmental behaviors [16].

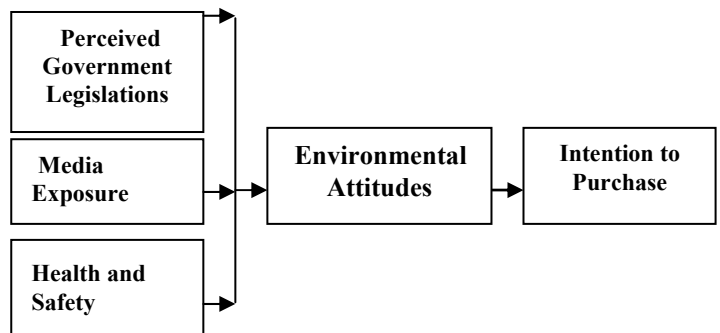### III. MODEL OF FACTORS INFLUENCING ENVIRONMENTAL ATTITUDE AND PURCHASE INTENTION

Figure 1: Research Model of Factors Influencing Environmental Attitude and Purchase intention

Based on the foregoing literature, it can be argued that perceived government legislations, media exposure, safety and health concerns are all important predictors of environmental attitude and purchase intention. Hence, overall the following hypothesis was developed:

H1. Perceived government legislation has a significant positive influence on the consumer's purchase intentions.

H2. Media exposure has a significant positive influence on consumer's purchase intentions.

H3. Safety and health concerns have a significant positive influence on the consumer's purchase intentions.

H4. Perceived government legislation has a significant positive influence on the consumer's environmental attitude.

H5. Media exposure has a significant positive influence on consumer's environmental attitudes.

H6. Safety and health concerns have a significant positive influence on the consumer's environment attitude.

Mediating Role of Consumers' Environmental Attitudes between the Independent Variables and the Dependent Variable

H7. Consumer's environmental attitude mediates the influence of the perceived government legislations on the purchase intention.

H8. Consumer's environmental attitude mediates the influence of media exposure on purchase intention.

H9. Consumer's environmental attitude mediates the influence of safety and health on purchase intention.

IV. METHODOLOGY

A. Sample

The population for this study consists of full time university lecturers from University Sains Malaysia, which has been considered the second oldest university and has emerged as the country's largest universities in terms of academic programs, student enrollment, and infrastructure. Respondents will be full time university lecturers from the university's main campus and from the university's engineering campus, based on academic staff statistics

obtained from the University chancellery on January (2007) there are 898 full time university academic staff working on main and engineering campus. Therefore, by using the stratified proportionate sampling method a list of names of lecturers, working in each school was obtained either from the university directory book or from USM website, and once the population has been stratified into 25 major schools, 20% of the total number of academic staff working in each school would be drawn. Therefore, the target number of questionnaires need to be collected is 179. However, 175 were returned, 4 questionnaires were not returned and 5 were rejected due to incompleteness and were unusable. Hence, 170 completed sets would be used for the data analysis in this study there by giving a total response rate of 95%.

B. Measurement of variables

Independent variable- perceived government legislations: Perceived government legislations were measured by using the adapted measurements from [13] and [36] this means the respondents will have to give answers to six items for this variable. A five point Likert scale ranging from 1= strongly disagree to 5= strongly agree will be employed to measure perceived government legislations.

C. Independent variable- media exposure

Media exposure was measured by [50] using 10 items using media type–exposure questions, and dose-exposure questions. However, the measurements for this variable will be adapted from [50] using eight items. Individuals will be asked whether they have been exposed to any advertisements through television, radio, newspapers and billboards, if the answer is yes individuals would be then asked how many times they have been exposed to that type.

D. Independent variable- safety and health concerns

Health and safety concerns was measured by [49] using 1 statement stating "Our food is becoming unsafe because of food additives "respondents were asked to give answers from 1= strongly disagree to 7= strongly agree. [41] used three items to measure health and safety, respondents were asked to give answers from 1= most unsafe to 5= extremely safe. However, the measurements for this variable will be adapted from [49] &[41] this means the respondents will have to give answers to 4 items on a scale ranging from 1= strongly disagree to 5= strongly agree.

E. Mediating variable- environmental attitude

The measurement environmental attitude will be adapted from [31]. This means the respondents will have to give answers to 10 items for this variable. A five point Likert scale ranging from 1= strongly disagree to 5= strongly agree will be employed to measure environmental attitudes.

F. Dependent variable-Purchase intention

Three statements were used by [3] to measure intention" I intend to …" "I will try to" and "I plan to…." However, the measurements for this variable will be adapted from [3] there will be a slight change in the wording of the statements, so it will be better understood by the respondents who in turn, will have to give answers to three statements for this variable. The dichotomous scale will be used to measure purchase intention.

V. RESULTS AND FINDINGS

200 sets of questionnaires were distributed to academic staff working in 25 major schools in University Sains Malaysia main campus and engineering campus. The drop and pick technique method was used in distributing and collecting the questionnaires. The total of full time university academic staff working on main and engineering campus is 898.Therefore, by using the stratified proportionate sampling method a list of names of lecturers working in each school was obtained either from the university directory book or from USM website and once the population has been stratified into 25 major schools, 20% of the total number of academic staff working in each school was drawn. Two hundred questionnaires were distributed, target number of questionnaires (sample size) needed to be collected was 179, however, 175 were returned, 4 questionnaires were not returned and 5 were rejected due to incompleteness and were unusable. Hence, 170 complete sets will be used for the data analysis in this study thereby giving a total response rate of 95%. Based on Hair et al., (2006) a sample size of 100 is considered sufficient to carry out the analysis. Table 1 below shows the response rate description and result.

TABLE 1 RESPONSE RATE

DESCRIPTION	Result
Questionnaires distributed	200
Target amont of questionnaires	179
Questionnaires returned	175
Questionnaires un returned	4
Un usable Questionnaires	5
Usable Questionnaires returned	170
Response rate	95%

A. Profile of Respondents

A demographic profile of the respondents is listed in Table 2. In terms of gender, 39.4% of respondents were females and 60.6% were male respondents, this indicates that the majority of respondents were male lecturers. In terms of age, 1.2% of respondents were below the age of 29 years old, while the majority of respondents 41.2% aged between 40 to 49 years old, followed by 38.2% of respondents were between the age of 30 to 39 years old, and the remaining 19.4% of respondents were above 50 years old. From ethnic back ground perspective, 72.4% of respondents were Malay, 11.2% were Chinese, 8.2% were Indians and 8.2% were other races. In terms of professional status, the majority 48.2% were lecturers, followed by 33.5% were associate professors, 17.1% were senior lectures and 1.2% were professors. Therefore, from the analysis it is apparent that the majority of respondents are in the lecturer category, which are young, and potentially holding more funds for research in future.

In terms of years of experience,31.8% of respondents had working experience lower than 5 years, 17.6% of respondents had working experience between 5 to 10 years, followed by 31.8% of respondents had working experience

between 11 to 20 years, and 16.5% of respondents had working experience between 21 to 30 years. Lastly, 2.4% of respondents had working experience above 30 years. From this analysis, it appears that the majority of respondents had medium to high number of years of experience; this reflects that during respondents' years of experience on the job they will be liable to a number of research grants which will enable them to purchase electronic products for research purposes. This is supported by the following analysis on lecturers' number of research grants awarded to them during their years of experience. However, in terms of research grants, from the analysis it appears that 81% of respondents have a research grant ranging from 1 to 32. This means that lecturers tendency to use computers and other electronics is high, this can be shown from the number of research grants awarded to them, which enables them to purchase electronics equipment and add on peripherals such as; printer, modem, storage system, which works in conjunction with a computer. Factor analysis was performed to analyze the goodness of data. It is data reduction analysis that will help to identify the small number of factors that explain most of the variance observed in a large number of variables. Factor analysis was used to test perceived government legislations (independent variable), safety and health concerns (independent variable), and self-efficacy (independent variable) and environmental attitude (mediating variable). Kaiser-Mayer-Olkin (KMO) and Bartlett's test with a loading of 0.50 and above indicates the adequacy of data for performing factor analysis. According to [21] they interpreted the KMO sampling adequacy as follows: Marvelous are 90 or above 80, meritorious 70 or above, middling 60 or above, mediocre 50 or above and finally, miserable 50 and below.

B. Factor Analysis

1) Factor Analysis – Perceived Government Legislations

The following analysis is to analyze the construct of perceived government legislations. Confirmatory factor analysis was conducted and items were forced into one factor therefore, results regarding perceived government legislations revealed that all items dropped on a single component, explaining 43.87% of the total variance in the variable. Table 2 below illustrates the results of the analysis however; Items 1 and 6 were eliminated due to low loading. In the current study, the mean for perceived government legislations is 2.11, which indicate that respondents' believe governments are not imposing strict laws and regulations in protecting the environment and controlling pollution. The Kaiser-Meyer-Olkin measure of sampling is .71, which is considered meritorious, meaning excellent. The Bartlett's test of sphericity is significant at p<0.01.

TABLE 2 VARIABLES AND FACTOR LOADINGS

Variables	loadings
Perceived Government Legislations	.71- .86
Safety and Health Concern	.81- .88
Environmental Attitude	Factor 1 : .57- .66 Factor 2 : .68- .79

2) Factor Analysis – Safety and Health Concerns

The construct of safety and health concerns was analyzed using confirmatory factor analysis and items were forced into one factor. Table 4 below shows the results of the analysis which indicated that all items were accepted for safety and health concerns and all items dropped on a single component, explaining 70.04% of the total variance in the variable. Hence, non of the items were dropped and the mean for safety and health concerns was 4.20 which indicate that respondent's safety and health concerns are high. The Kaiser-Meyer- Olkin measure of sampling is .82 which is considered marvelous. The Bartlett's test of sphericity is significant at p<0.01.

3) Factor Analysis – Environmental Attitude

The measurement for environmental attitude was adapted and modified to the Malaysian context to establish the dimensions of the study. Hence, this study utilized exploratory factor analysis was run twice to analyze the construct of environmental attitude, which will help establish grouping of items based on respondents' perceptions i.e. USM lecturers. After running the first factor analysis two items were eliminated due to cross loading. In the second running of factor analysis another two items were eliminated. The remaining six items grouped under a single component, explaining the total variance of (30.64%) in the variable, the mean value for environmental attitude is of 3.67 which indicate that respondents' environmental attitude is above average. The Kaiser-Meyer- Olkin measure of sampling is .77 which is considered meritorious, meaning excellent and the Bartlett's test of sphericity is significant at p<0.01. Table 1 above illustrates the range of factor loadings.

C. Descriptive Statistics

After carrying out the validity and reliability analyses, the items representing their respective factors were then averaged. The mean was applied as a measure of central tendency, which indicated that all variables were above their midpoint level as indicated in Table 3. Respondents safety and health concerns was the highest in rating ($\overline{X}$ = 4.20), followed by respondents environmental attitude the mediating variable of the study had a mean value of ($\overline{X}$ = 3.67), which indicates that respondents attitude towards the environment was normal neither high nor low. Followed by perceived government legislations ($\overline{X}$ = 2.11) and finally media exposure ($\overline{X}$ = 1.74). In addition, Table 3 below provides a summary of descriptive statistics for; perceived government legislations, media exposure, safety and health concerns, environmental attitude, and purchase intention.

TABLE 3 DESCRIPTIVE STATISTICS

Type of variable	Minimum	Maximum	Mean	Std. Deviation	Cronbach's Alpha
Perceived Government Legislations	1.00	5.00	2.11	.871	.82
Safety and Health Concerns	1.50	5.00	4.20	.703	.85
Enviromental altitude	2.00	5.00	3.67	.531	.69
Media exposure	1.00	2.00	1.74	.436	

Purchase Intention	.00	1.00	.018	.132

D. Mediating Analyses: Dependent Variable of Purchase Intention

In this study, a mediation analysis was employed through a series of multiple regression analyses in order to test the hypotheses. The present study has one mediating variable of environmental attitude, and in order to establish its presence, the first step is to ascertain the impact of the independent variables including perceived government legislations, media exposure, and safety and health concerns on the dependent variable of purchase intention. When purchase intention is set as the dependent variable in Table 4, it shows that only media exposure exhibited positive impact on the dependent variable of purchase intention hence, (H2 is supported), while perceived government legislations, safety and health concerns did not reveal any significant statistical influence and were insignificant at $p<.10$ therefore, H1, H3, not supported.

The output shows that only media exposure has a positive relationship with purchase intention at $\beta = .183$, $t = 2.395$, $p <0.05$. However, the variation of media exposure explained 5 percent of purchase intention (i.e. $R^2=0.50$). Therefore, H2 is supported. This indicates that the higher lecturers are exposed to media, the higher their intention to purchase electronic green products.

TABLE4 REGRESSION ANALYSIS BETWEEN ALL INDEPENDENT VARIABLES AND DEPENDENT VARIABLE OF PURCHASE INTENTION

Variables	Beta	t-values	Sig.
Perceived Government Legislation	090	1.144	.254
Safety and health	.113	1.448	.149
Media Exposure	.183**	2.395	.018
R square	.050		
F	2.898**		
D. Watson	2.144		

Note: *** $p<0.01$ and **$p<0.05$ and *$p<.10$

In the second step of the mediating analyses, multiple regression analyses was run (see Table 5) between all the independent variables and the mediating variable of environmental attitude, the result shows that one variable exhibited a positive impact on environmental attitude this variable is safety and health concerns therefore, (H 6 is supported). The output shows that safety and health concerns has a significant positive impact on environmental attitude at $\beta = .229$, $t = 2.952$, $p <0.01$. This indicates that the higher the safety and health concerns among lecturers the higher their level of environmental attitude. Therefore, H6 is supported. However, perceived government legislations and media exposure did not reveal any significant statistical influence and were insignificant at $p<.10$ on environmental attitudes therefore, H4 and H5 not supported. This effectively eliminates the possibility of environmental attitude being a mediator for the relationship of perceived government

legislations and media exposure on purchase intention. According to Baron and Kenny (1986), if one of the steps of the mediating analyses produces a non-significant factor, the mediating effects do not hold.

TABLE5 REGRESSION ANALYSIS BETWEEN ALL INDEPENDENT VARIABLES AND THE MEDIATING VARIABLE OF ENVIRONMENTAL ATTITUDE

Variables	Beta	t-values	Sig.
Perceived Government Legislation	-.o51	-.659	.511
Safety and health	.229***	2.952	.004
Media Exposure	.112	1.473	.1423
R square	.067		
F	3.973***		
D. Watson	1.637		

Note: *** $p<0.01$ and **$p<0.05$ and *$p<.10$

Table 6 illustrates the final step of the regression. Hence, environmental attitude was not found to be a mediator for the relationship between media exposure and purchase intention, at $\beta= -.185$, $t = 2.431$, $p < 0.5$. However, environmental attitude explained 3 percent of the variation between media exposure and purchase intention (i.e. $R^2=0.034$). Hence, H8 is not supported. However, environmental attitude was not regarded as a mediating variable to the independent variables of; perceived government legislations, safety and health concerns and did not reveal any significant statistical influence. Therefore, H7 and H9 are not supported.

TABLE6 REGRESSION ANALYSIS BETWEEN MEDIA EXPOSURE AND MEDIATING VARIABLE OF ENVIRONMENTAL ATTITUDE ON PURCHASE INTENTION

Variables	Beta	t-values	Sig.
Media Exposure	.185**	2.431	.016
Environmental Attitude	-.017	-.219	.827
R square	.034		
F	2.954*		
D. Watson	2.133		

Note: *** $p<0.01$ and **$p<0.05$ and *$p<.10$

VI. DISCUSSION

The result of this study indicated that perceived government legislations , did not influence respondents' environmental attitude, the mean score for perceived government legislations was 2.11 which indicate that lecturers perception of governments' ability in controlling environmental laws and regulations is low. In this study perceived government legislations, is conceptualized as consumer's perception that governments should impose strict laws and regulations on environmental pollution. The findings of this study are closer in line with Chandra [12] who carried out a study on the "relationship between political

awareness and conservation of attitudes and behaviors", political awareness showed a positive weak correlation with attitude, it was not strong enough to be considered significant and therefore, the results showed that there was almost no relationship between a person's political and environmental awareness. However, this governmental variable was used in connection to environmental studies, each study catered for a different context, different measurement, different model, and a different theory from the one that has been used in this study.

In addition, media, exposure is conceptualized as the type and frequency of media coverage on environmental issues that help shape consumer's beliefs. In the current study, measurement for media exposure has been adapted from [50] in the measurement media exposure is measured by frequency and dose of exposure to various media types.

Although, the findings of this study show that 88.2% of lecturers are all exposed newspaper articles, while 87.1% of lecturers are exposed to local news stories. In addition, 58.8% of lecturers are exposed to radio advertisements, and 57.1% have exposed to billboards. However, dose of exposure is considered rather low, among lecturers reporting exposure to different types of media, this can be shown from the findings that 11.2% of lecturers are not exposed to newspaper articles on environmental issues, and 52.9% are exposed to newspapers articles on environmental issues, 1 to 5 times in a three-month period. In addition, it seems that 11.8% of lecturers have not seen local news stories on environmental issues, while 53.5% have seen local news stories on environmental issues 1 to 5 times in a three-month period. However, 40.6% of lecturers have not heard radio advertisements on environmental issues, while 37.1% hears a radio advertisement only 1 to 5 times in a three month period. Finally, 42.4% of lecturers do not remember seeing billboards, and 16.5% of lecturers do remember seeing a billboard on the environment 1 to 5 times in a period of three months.

The findings indicate that although lecturers were exposed to the four types of media, but the level of exposure is low. Therefore, from the results of findings, media exposure did not have a significant statistical direct effect on environmental attitude; while, media exposure did exhibit a direct influence on purchase intention the dependent variable of the study.

Finally, the result of this study indicated that respondents' safety and health concerns strongly influenced respondents' environmental attitude, this indicates that lecturers safety and health concerns towards the environment is high. This means that the higher the concern about safety and health the higher their attitude towards the environment. This study is in line with the findings of [49] who found that safety and health concerns ranked as the strongest predictors of attitude, findings by [49] lend support to researchers who claim that increasing concerns with safety and health are becoming a prominent factor in shaping people's attitudes towards the environment, it also supports the self-interest notion that behavioral motivation increases with perceptions of personal risk.

The finding is supported by [17] who argued that there is

evidence that environmental condition are worsening. Accordingly, [17] argued that concerns for quality of life has given way, in many cases to concern about health issues, and life itself, for humans and non-human species. The findings of this study are in line with [41] who concluded that respondents felt most unsafe regarding polluted food, infected food, and industrial pollution. Hence, in the current study lecturers were asked four questions to measure their safety and health concerns. The first question; our food is becoming unsafe because of environmental pollution, the mean score for question one is (4.0). The second question; our water is becoming unsafe because environmental pollution, the mean score for question two is (4.31). The third question; I feel unsafe from getting a health injury caused by environmental pollution, the mean score for question three is (3.98). Finally question four; I feel unsafe consuming polluted food, the mean score for question four is (4.41). Therefore, the findings indicate that lecturers felt most unsafe consuming polluted food, polluted water, and getting a health injury caused by environmental pollution. Hence, concerns with safety and health are becoming a prominent factor in shaping people's attitudes towards the environment.

The Mediating Role of Lecturers' Environmental Attitude on the Relationship between Perceived Government Legislation, Media Exposure, Safety and Health concerns and Purchase Intention.

The result of this study indicated that respondents' environmental attitude was neither low, nor high but it was average. However, from the findings of this study environmental attitude did not mediate the relationship between perceived government legislations, media exposure, and safety and health concerns, and the dependent variable of purchase intention. This could be due to a number of different facts. Firstly, respondents did not have strong perception of government rules and regulations this was clear from the low mean scores regarding perceived government legislations. According to [20], the media and other sources of information such as the public libraries provide support in public awareness programs in Malaysia. However, maybe an increase to the existing public awareness programs and larger media coverage will increase consumers' perceptions of government rules and regulations. Another aspect that could have affected the non mediating role of environmental attitude between perceived government legislations and purchase intention of lead-free electronics, could be due to the items in the questionnaire measuring government legislations was about government regulations in controlling environmental pollution in general and not specifically about lead- free electronics, this could have contributed to the insignificant result. secondly, environmental attitude did not mediate the relationship between media exposure and purchase intention, this could be due to the fact that the one item measuring respondent's exposure to media was eliminated in factor analysis due to cross loading. The eliminated item stated, "I seldom read articles or watch TV programs on environmental issues". Hence, this elimination could have considerably affected the non-mediating result.

Finally, environmental attitude was not found to mediate the relationship between safety and health concerns and

purchase intention. This could be shown from results of factor analysis; items measuring respondent's actual commitment were all eliminated either for cross factor loading or low reliability. For example, items such as, "in my house hold we do not buy products just because they originate from sustainable products". In addition, items such as, "I am not willing to pay pollution tax even if it would considerably decrease the environmental pollution." This indicates that although respondents' safety and health concerns are high towards environmental concern, however, respondents' actual commitment is low. Hence, the finding is in line with [46] who pointed out that, although people may be genuinely concerned about environmental protection, their individual actions are based on self-interest can bring about environmental damage as an unintended consequence.

VII. CONCLUSION

This study has shed some insight to the problem of pollution, which is caused by the disposal of high-tech electronic products at the end of the products life cycle. Hence, lecturers are considered relatively heavy users of electronic products; Due to their profession and technological consumption their intention to purchase lead-free electronic products (green electronics) is the focus of the study. Hence, through a survey among lecturers working full time in USM main campus and USM engineering campus the study found some revealing insights the results of this study indicated that ; safety and health concerns, had a significant influence on lecturers' environmental attitude, while media exposure influenced purchase intention directly. As for environmental attitude, it did not act as a mediator between the independent variables and the dependent variable of purchase intention.

However, some of the findings which emerged included: perceived government legislation did not have an influence neither on environmental attitude nor purchase intention, this should not be interpreted as a disability but rather as an opportunity since this study has managed to get an insight on using a governmental variable and adapting a measurement for it. Future studies may explore the influence of this variable, and make use of the existing literature and measurement in exploring a new phenomenon in need of a governmental variable. From the findings of the study it is recommended that marketers should constantly monitor and evaluate the needs and concerns of university lecturers by taking into account lecturers' safety and health concerns factors which will enable higher levels of performance and achievement. In addition, an increase in the dose of media will optimize consumer awareness towards environmental problems, and hence, influence positive attitudes, as media plays an important role in shaping consumers attitudes and their levels of participation in environmental actions and behaviours. Therefore, when catering for this segment of consumers the findings of the study should be taken into consideration.

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