

The effect of environmental awareness on consumers' attitudes and consumers' intention to purchase environmentally friendly products: Evidence from United Arab Emirates

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ABSTRACT

This paper aims to measure consumer awareness of environmentally friendly products in the context of United Arab Emirates. The study also intends to measure the effect of consumer awareness on the customer intention to purchase environmentally friendly products and whether or not consumer attitudes mediate this relationship. A self-administered survey was delivered using Google Form tool to reach as many respondents as possible, where a link to survey has been shared by emails, the respondent randomly selected from United Arab Emirates. A total of 174 responses has been received of which 7 responses dropped for being not complete, resulting in 167 useful responses. Content validity has been done to ensure the items are clearly understood, which is accomplished by consulting two academicians who are familiar with this field of study. SPSS statistical package version 22 has been used to test the hypotheses of this research. Based on data analysis, it has been found that Environmental Awareness positively and significantly affects Consumers' Attitudes toward environmentally friendly products and Green products Purchase Intention, respectively. Furthermore, a positive and significant relationship between Consumers' Attitudes towards environmentally friendly products and Purchase Intention is detected. However, the proposed mediating role of Attitudes in the relationship between Environmental Awareness and Purchase Intention was not supported.

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1. Introduction

Green marketing and environmental concerns have emerged as a topic of interest for both academicians and practitioners alike and booming, several researches have been conducted to investigate the link between green marketing with its focus on the environmentally friendly practices and products on companies performance (Raharjo, 2018), whereas some other studies have been conducted to explore the antecedents and factors that affect consumer attitudes toward green products, and researchers also examined the antecedents of green products purchase intention. However, it has been noticed that there is still a gap in the literature in these three dimensions, i.e., awareness, attitudes, and intention, and scholars called for more research to shed light on these three dimensions of research in several countries and different cultural settings so a conclusive result can be consolidated, especially that researchers have found contradictory results in different countries, so more research papers in different countries and different cultural settings are needed especially in emerging economies (Raharjo, 2018; Hsu & Zomer, 2016; Keho, 2016; Nguyen et al., 2017). Environmentally friendly products emerged to be one of the hot topics in business and marketing due to its proposed link with companies performance, healthy living and sustainability (Akroush et al., 2018; Raharjo, 2018; Sogari et al., 2017) it can be a distinguishing factor that differentiates companies into green or conventional ones, with the possibility of customer willingness to pay more for the green products as compared with conventional products.

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Green practices associated with reducing of waste, efficient use of resources, and considered as critical for healthy life. According to Raharjo (2018) the global warming is one of the serious problems the world is facing currently and this is mainly due to human acts. Thus, the link between these practices and the profitability of the practicing companies is legitimate. Environmental concerns evolve to be an interesting stream not only for academics and practitioners, but also for governments worldwide, green and environmentally friendly products and practices proved to affect natural resources sustainability, health related issues, and efficiency of utilizing the nations resources (Raharjo, 2018). It has been reported that environmentally friendly practices can help in sustaining the resources, reducing pollution, enhancing the ecological system, and reducing the waste (Alameeri et al., 2018). Our world is becoming increasingly populous, and it becomes imperative for governments and companies to pay attention to environmental practices and environmentally friendly products.

2. Literature Review

2.1 Environmental Knowledge

Research on environmental knowledge measures the level of consumer awareness of environmental issues, concerns and it affects ecosystem. According to Kaufmann et al. (2012), environmental awareness can be defined as the general knowledge of facts, concepts and relationships related to environmental protection. According to them the environmental knowledge includes everything consumers might know about the environment, such as the key relationships and influences; the identification of the capabilities of environmental systems; and the collective responsibilities necessary for sustainable development (Kaufmann et al., 2012). Several studies have been conducted to measure the level of consumer awareness of environmental issues and how these would affect our lives and our products selection as consumers. Raharjo (2018) argued that business activities can have a positive impact on societies and also possess negative impacts, leading to conflicts between communities and companies. Vicente-Molina et al. (2013); Goh and Wahid (2014) and Jaiswal and Kant (2018) found that that high level of environmental knowledge has a significant positive influence on consumer attitudes and behavior. Vicente-Molina et al. (2013) called for taking the environmental awareness more seriously in the future research, Jaiswal and Kant (2018) argued that environmental awareness is important as it can explain the consumers attitudes toward environmentally friendly products.

Other researchers explored the environmental awareness from two perspectives, i.e., the subjective knowledge and the objective knowledge (Vicente-Molina et al., 2013; Chen, 2013; Azizan & Suki, 2014), according to them, subjective environmental knowledge refers to the extent to which the individual believe he know about the environmental issues, it is a self-assessment of what and how much a person is aware of the green phenomenon which is also referred to as abstract knowledge (Jaiswal & Kant, 2018). On the other hand, objective environmental knowledge defined as the extent to which an individual actually know about a type of product or issue (Vicente-Molina et al., 2013). This knowledge is factual knowledge or behavioral knowledge (Jaiswal & Kant, 2018), and Chen (2013) even argued that a person needs to be educated to understand the impact of a product on the environment.

However, Kumar et al. (2017) argued the same but found a weak link between environmental awareness and purchase intention. Furthermore, another study carried out by Aman et al. (2012) found that even though environmental awareness affects positively the purchase intention of environmentally friendly products, but no link is established between the environmental awareness and consumer attitudes toward green products. Such contradicting results believed to be of importance and triggered the need to further explore this relationship in different countries to provide more clear insights into the link. This research intends to explore the level of environmental awareness amongst UAE consumers, and examine the effect of environmental knowledge on consumer attitudes and purchase intention. This research integrates both subjective and objective awareness in a 9 items scale by using Likert 5 points scale ranging from 1 = Strongly Agree to 5 = Strongly Disagree.

2.2 Attitudes toward Environmentally Products

Ajzen (1991) defined attitude as the extent to which an individual has a positive or negative evaluation of a particular behavior. Several studies have been conducted to measure consumer attitudes and few studies measured consumer attitudes toward green products. For instance, Akroush et al. (2018) suggested that intention is affected by attitudes, some others argued that attitudes and generations affect the purchase behavior (Chang et al., 2016; Kelley et al., 2019) to the extent that some generations could be more environmentally friendly compared to others Sogari et al. (2017). Pieniak et al. (2010) used three dimensions of attitudes, namely, cognitive, affective and conative dimensions but unified these three dimensions in one scale. Nguyen et al. (2017) proved that cultural values affect the environmental attitudes. According to them, consumers in different cultural settings can show different attitudes toward environmentally friendly products. Research conducted revealed contradicting findings as some research found positive and significant relationship between environmental awareness and attitudes towards environmentally friendly products, whereas some other research found no link between the two variables, hence, there is a need to do more research on this link as more support is needed from different countries and different cultural settings to make conclusions as cultural values found to affect the environmental behavior (Nguyen et al., 2017), whereas Kelley et al. (2019) emphasized on the importance of knowing the effects of understanding consumer attitudes toward environmentally friendly packages due to its impact on the environment. This research is attempting to participate in bridging the gap in the literature (Aman et al., 2012; Kumar et al., 2017) by providing an evidence on the link between environmental awareness and consumers attitudes toward green products in the United Arab Emirates.

2.3 Consumers' Purchase Intention

Purchase intention attracted the attention of scholars as it is believed to be an antecedent to purchase behavior, that is: scholars believe that the intention to buy will lead to actual purchase assuming the situational factors are constant. This argument has its own foundation in the theory of planned behavior (Ajzen, 1991), and Akroush et al. (2018) suggested that individual behavior is determined by his intention, and Pieniak et al. (2010) found that attitude is a predictor of behavior. Nguyen et al. (2017) examined the effect of cultural values in the context of environmentally friendly products on purchase intention and found positive relationship between the two variables. This research is participating in this field as it intends to measure the antecedents of environmentally friendly products purchase intention. This research proposes awareness and attitudes as antecedents but also suggests that attitudes play a mediating role between awareness and intention. Fig. 1 shows the research model.

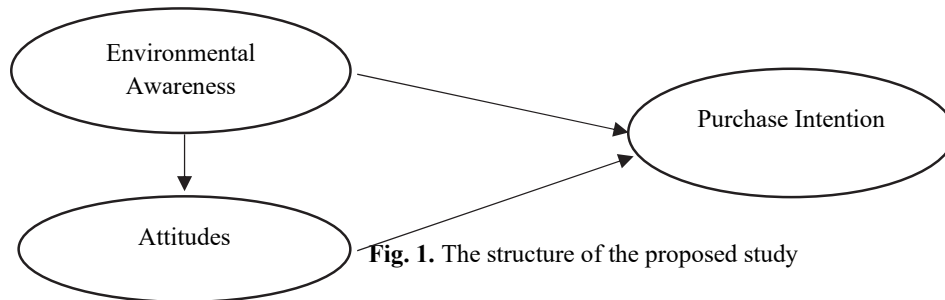


Fig. 1. The structure of the proposed study

This research intends to explore the relationship between environmental awareness, consumers attitudes toward environmentally friendly products, and purchase intention, that is; it will examine the direct relationship between environmental awareness and purchase intention, the relationship between consumers attitudes towards environmentally friendly products and consumers intention to buy, as well as it intends to examine if attitudes mediate the relationship. Simple random sampling technique will be used, and SPSS statistical software version 22 will be utilized.

3. Research Hypothesis

This research intends to test the relationship between consumers' environmental awareness and consumers' attitudes towards environmentally friendly products, it also intends to examine the relationship between consumers attitudes and their intention to purchase green products. In addition, the mediating role of attitudes in the relationship between the awareness and purchase intention will be also examined, hence, 4 research hypotheses were formed as follow:

H₁: *There is a positive and significant relationship between environmental awareness and consumers attitudes toward environmentally friendly products.*

H₂: *There is a positive and significant relationship between consumers attitudes toward environmentally friendly products and consumer purchase intention.*

H₃: *There is a positive and significant direct effect between environmental awareness and consumers intention to purchase environmentally friendly product.*

H₄: *Consumer attitudes mediate the relationship between environmental awareness and consumers intention to purchase environmentally friendly products.*

This research applied quantitative methods approach for data collection and data have been collected from consumers residing in United Arab Emirates through google form survey. This method of data collection is used due to the ability of reaching large number of respondents in convenient way, simple random sampling has been used as survey distributed randomly, a total of 174 responses have been received in the months of May and June, 2020. Out of the received responses, 7 responses found incomplete and thus dropped from the analysis resulting in 167 useable responses. The items and scales of the main variables of this research have been adapted and developed from Akroush et al. (2018) and Wang et al. (2019). 20 items have been used to measure the main variables of this research, out of which 9 items designed to measure Environment Awareness, 5 items to measure Consumer Attitudes toward Environmentally friendly Products with 1 item served as reverse item, and lastly, 6 items were designed to measure consumers Intention to Purchase environmentally Friendly Products with 2 items were used as reverse. Reverse items were used to ensure the respondents are adequately answering the survey questions, and responses of the reverse items were reversed prior to the start of data analysis. Furthermore, demographic data have been also collected including age group, income, gender, and educational level as these can serve as moderating variables in analyzing the data. Statistical Package for Social Sciences (SPSS) Version 22 has been used for data analysis.

Several analysis techniques have been used by utilizing SPSS V.2 software, this include reliability analysis of the three scales, namely, Environmental Awareness, Consumers Attitudes toward Environmentally Friendly Products, and Consumers Intention to Purchase environmentally friendly products, the results of Cronbach’s Alpha as a measure of reliability are 0.81, 0.76, and 0.83 respectively, indicating that all scales and their respective items are reliable. Fig. 2 below details the profiles of the respondents.

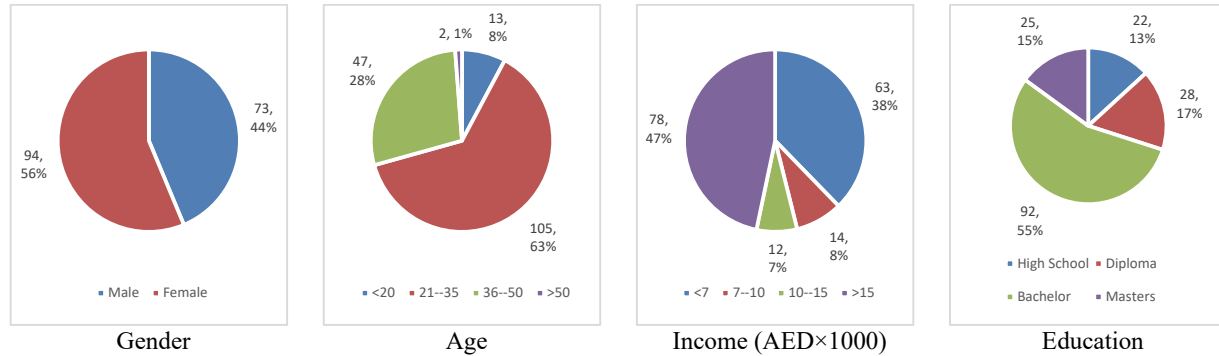


Fig. 2. Personal characteristics of the participants

From Fig. 2, it can be concluded that the majority of the respondents are female, making 56% of the sample, 55% of the respondents have Bachelor degree, 63% of the respondents aged between 21 and 35 years which can give weight to the findings of this research as this segment of age represent the tech savvy generation that might draw the consumption patterns for next decades, 46% of the respondents earn monthly income of more than 15,000 Arab Emirates Dirhams making them representative of the strong buying power that most people in UAE enjoy. To understand the basic features of the collected data, descriptive analysis has been conducted and Table 1 shows the average, variance, standard deviation, and weight for the three variables as follow:

Table 1
Value of Mean, Variance, and Standard deviation

	N	Mean	Std. Deviation	Variance
Environmental Awareness	167	1.96	.662	.438
Consumers Attitudes	167	2.02	.707	.500
Purchase Intention	167	2.19	.703	.494
Valid N (listwise)	167			

According to Table 1, the highest mean of the three variables is for Purchase Intention at 2.19, with standard deviation of 0.70, the second is Consumer Attitudes with mean score of 2.02 and Standard deviation of nearly 0.71, and the lowest is Environmental Awareness with mean of 1.96 and standard deviation of 0.66, further analysis is needed to draw on the relationships between these variable. To investigate the strength of the relationship between the independent variable(s), i.e., Awareness and Attitudes and the dependent variable, i.e., Purchase Intention, simple regression analysis has been done, and multiple regression analysis also conducted to measure if Attitudes mediate the relationship between Awareness and Purchase Intention.

H1: There is positive and significant relationship between environmental awareness and consumers attitudes toward environmentally friendly products.

Table 2
Simple Regression Analysis Between Awareness and Attitudes

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.314	.162		8.123	.000
	Environmental Awareness	.359	.078	.336	4.589	.000

a. Dependent Variable: Consumers Attitudes

The result of Table 2 indicates that the intercept (B = 0.336, Sig. = 0.000) is statistically meaningful and it can be concluded that Environmental Awareness as an independent variable is positively and significantly associated with Consumers Attitudes toward environmentally friendly products, and thus H₁ is confirmed.

H2: There is a positive and significant relationship between consumers attitudes toward environmentally friendly products and consumer purchase intention.

Table 3
Simple Regression Analysis Between Attitudes and Intention

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.871	.124		7.009	.000
	Consumers Attitudes	.656	.058	.660	11.288	.000

a. Dependent Variable: Purchase Intention

The result of Table 3 clearly indicates a strong, positive and significant relationship between Consumers' Environmental Attitudes and Consumers' Purchase Intention ($B = 0.660$, $\text{Sig.} = 0.000$) and it can be concluded that consumer attitudes toward environmentally friendly products is positive, and hence, H_2 is accepted.

H3: *There is a positive and significant direct effect between environmental awareness and consumers intention to purchase environmentally friendly product.*

Table 4
Simple Regression Analysis Between Awareness and Intention

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.539	.162		9.496	.000
	Environmental Awareness	.335	.078	.316	4.273	.000

a. Dependent Variable: Purchase Intention

Table 4 depicts a positive and significant relationship between Consumers' Environmental Awareness and Consumers' Intention to purchase environmentally friendly products, ($B = 0.316$, $\text{Sig.} = 0.000$), Hypotheses 3 is accepted.

H4: *Consumer attitudes mediate the relationship between environmental awareness and consumers intention to purchase environmentally friendly products.*

In order to test the last hypotheses of this research, i.e., H_4 that suggest a mediating role of attitudes in the relationship between Environmental Awareness and Purchase Intention, a multiple regression analysis has been conducted. To measure the mediating effect, the significance of the relationships needs to be observed. Table 6 below portray the results of the test.

Table 5
Multiple Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.723	.151		4.789	.000
	Environmental Awareness	.112	.066	.106	1.709	.089
	Consumers Attitudes	.621	.061	.625	10.117	.000

a. Dependent Variable: Purchase Intention

According to Table 5, it can be clearly noticed that when proposing attitudes as a mediator in the relationship between awareness and intention, the relationship found to be meaningless when the level of significance is five percent, hence, the mediating role is not supported and H_4 of this research is thus rejected and attitudes does not mediate the relationship between environmental awareness and purchase intention.

4. Research Findings

Out of the 4 hypotheses tested in this research, the first 3 hypotheses were accepted whereas H_4 has been rejected. In other words, a positive and significant relationship has been found between Environmental Awareness and Consumers Attitudes toward environmentally friendly products, a positive and significant relationship also found between the Environmental Awareness and Purchase Intention. Moreover, a positive and significant relationship found between Attitudes toward environmentally friendly products and purchase Intention, however, the mediating role of Attitudes in the relationship between Awareness Purchase Intention is not supported. The findings of this research support the main stream of literature and the findings of previous research in different countries and cultural setting. It also lends support to the contradicting findings of Kumar et al. (2017) and Aman et al. (2012).

5. Conclusions and Recommendations

This research has intended to examine the relationship between Environmental Awareness, Consumers' Attitudes toward environmentally friendly products and Purchase Intention of green product. Data were collected in the months of May and June, 2020 from 174 respondents in United Arab Emirates while 7 responses were found incomplete and dropped, resulting in 167 useable responses. SPSS statistical package was used to analyze the data and test the hypotheses, 3 out of 4 hypotheses were accepted.

This research findings support the main stream finding of previous researchers in different countries as positive and significant relationship between Awareness and Attitudes, Awareness and Intention, and Attitudes and Intention have been found. However, the mediating role of Attitudes in the relationship between Awareness and Purchase Intention was not supported indicating that both Awareness and Attitudes are antecedents to Purchase Intention.

Future research might be carried out in different countries and comparative study is also encouraged as it will be interesting to see the differences in Awareness level and how this can affect Attitudes and Purchase Intention. Longitudinal research design is also recommended to conduct a time-series analysis on the proposed variables and relationships. Dividing the Environmental Awareness into Subjective Awareness and Objective Awareness as two different scales rather than merging them in one scale can also has an impact on the findings. Finally, it is recommended to measure the moderating effects of the demographic variables such as gender, age, income and education as this can provide deep understanding on the relationships between the variables.

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