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The impact of conscious consumer behavior on environmental friendliness: Saudi Arabia's sustainable vision 2030

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ABSTRACT

The paper discusses the impact of the conscious consumer on environmental friendliness by examining the relationships between determinants of conscious consumer behavior (environmental knowledge, environmental concern, individual's social responsibility, and environmentally conscious behavior) and their effects on environmental friendliness. The proposed theoretical model was tested empirically in the Saudi Arabia environment. They are expending both mixed methods, quantitative analysis of questionnaire data distributed to a sample of 248 students in the University of Bisha in Saudi Arabia using Structural Equation Modeling. Besides, a qualitative analysis of data collected using a semi-structured interview. The results confirm sufficient support for behavior theory and the proposed theoretical model that eco-conscious consumer behavior influences consumer environmental knowledge, environmental concern, individual social responsibility, and environmentally conscious consumer-related mainly to the desire for eco-friendliness. Consumers' actions should be geared towards integrating the factors found for environmentally conscious consumer behavior towards environmental friendliness. Also, we discuss the results and guidelines for further study.

1. Introduction

The study of consumer behavior is a starting point in the marketing process, understanding its behavior and knowing its purchasing motivations, and achieving the institutions' objectives and success in marketing their goods and services. The marketing process begins and ends with the consumer by identifying consumers' needs and desires and knowing their tendencies, tastes, and potential. The embodiment of these needs and wants and trends to goods (Wu et al., 2018). Consumption has become a decisive factor in the development and aggravation of environmental problems. Therefore, it is necessary to influence consumer behavior and preferences by directing consumers towards changing their habits Consumerism about products and services (Cherian and Jacob, 2012; Solomon and Panda, 2004).

Green-oriented institutions can influence consumers and promote green behavior. Green consumers are one of the driving factors behind green marketing. Marketers are motivated to boost their environmental efficiency by delivering goods that match consumers' expectations and recommendations with their environmental trends

Green consumer and green conduct identify by many designations, the aware consumer of social problems, the consumer of environmental issues, the green consumer, and the consumer aware of environmental problems. Green-oriented institutions can influence consumers and promote green behavior. Consumers are one of the driving factors behind green marketing; marketers are motivated to boost their environmental efficiency by delivering goods that match consumers' expectations and recommendations, with their environmental trends.

The green consumer identifies by many designations, the aware consumer of social problems, the consumer of environmental problems, the green consumer, and the consumer aware of

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environmental problems. We deal with influencing consumer behavior through green marketing, consumer readiness for green approach, green behaviors, and environmental protection models.

According to Maniatis (2016) and Young et al. (2010), 30% of consumers agree that green goods should be energy-efficient, help preserve water supplies, and environmentally friendly during processing, usage, or discharge processes. The product may affect consumer purchasing decisions, so manufacturers tend to produce environmentally-friendly products (Chan, 2001; Green et al., 1998) to meet green consumers' wishes.

2. Literature review

Green consumption has become a recurring theme in marketing literature, especially the consumer behavior gap in green consumption intention and action. We are taking the cognitive viewpoint in consumer behaviors, namely green product availability and perceived consumer efficacy.

Environmental marketing and consumer behavior refer to universal marketing principles under which goods and services were manufacturing and sold less environmentally damaging Wu et al. (2018) suggested that environmental awareness would contribute to positive environmental behavior changes and increase the effect on green consumption and eco-friendly. The person was also strongly identified with environmental concern, green conduct, green consumer, and environmental awareness to cultivate real consumers. Consumers with more robust knowledge, understanding, and environmental issues will deliver more supportive attitudes towards environmental friendliness (Wu et al., 2018).

2.1. Environmental knowledge

Environmental knowledge is a closely connected mechanism that determines how consumers gather, organize, and use the information to make decisions. Therefore, consumers perceive environmentally friendly goods and green businesses (Kautish and Sharma, 2020).

Knowledge, in this case, reveals the person's understanding and interpretation of the universe. Environmental knowledge requires information that must be identified and verified by a person to turn this knowledge into influential behavior. Environmental knowledge is concerned with assessing individual behavior towards consumer behavior and its impact on environmental preservation and demand for various green products (Lin and Niu, 2018). Environmental awareness contributes to environmental behavior (Kullmuss and Agyeman, 2002).

Environmental knowledge characterizes as an individual's information about the interrelationship between individuals and the environment. Environmental understanding shows how a person perceives his environmental duty, contributing to his environmental behavior. We also recognize how their environmental activity leads to sustainability—another study enabling an individual to identify positive environmental behavior.

Recent work has shown significant associations between participant awareness and attitude and between environmental knowledge and environmental attitude (Haryanto and Budiman, 2014; Lin and Niu, 2018). The research also found a correlation between green product usage and positive emotions (Paul et al., 2016). Since applying impersonal information leads to positive emotional interactions, these theories were suggesting.

Environmental knowledge, therefore, includes community environmental knowledge, and critical relationships lead to environmentally friendly impacts (Safari et al., 2018; Turnhout, 2018). Nevertheless, the importance of environmental knowledge in environmentally friendly marketing and more work has shown significant associations between participant knowledge and attitude, and environmental knowledge and attitude towards the environment.

The authors examine the fundamental relationship between environmental knowledge and consumer behavior in environmental protection based on the above statements. Therefore, perceived environmental awareness focused on individual phenomenon interpretation to classify actions is the pattern of green products and environmental conservation to validate the sense in the Kingdom of Saudi Arabia. This research suggests the following hypotheses:

H1a: Environmental knowledge impacts environmental friendliness positively and significantly.

2.2. Environmental concern

Most environmental studies have focused on environmental challenges while now focusing on environmental consumer concerns. Environmental concern as a one-dimensional structure ranges from those who are not interested in the environment to those engaging in the environment (Fransson and Gärling, 1999; Steg and Vlek, 2009). This environmental concern has a significant impact on individuals' motivation to change behavior to alleviate the environmental problem. Positively, concern for the environment mediates the relationship between personal and disinterested behavior in the environment, consumer concern in environmental concern, and the desire to pay for sustainable products.

Environmental concern was linkage to environmental concerns, including individual behavior paths and environmental friendliness. The use of green products by consumers leads to values that foster environmental consciousness. Environmental concern is an individual conviction aspect that leads consumers to environmentally

friendly practices (Dembkowski and Hanmer-Lloyd, 1994; Karp, 1996). People with environmental concerns also exhibit consumer behavior, a strong sense of commitment, and environmental protection.

Environmental concern is one of the main predictors of environmentally friendly actions (Han et al., 2010). Environmental concern reflects the degree of knowledge of potential environmental concerns by citizens, their desire to fix and reduce environmental problems; this means a sense of responsibility for environmental friendliness, expressed in the individual's environmental obligation, reflected in environmental conservation (Gigliotti, 1994; Jaiswal and Kant, 2018; Jaiswal and Singh, 2018). Studies have shown increasing consumer interest and willingness to pay for sustainable goods (Didier and Lucie, 2008; Kang et al., 2012; Doorn and Verhoef, 2011).

We use the recycling of goods or green procurement actions (De-Magistris and Gracia, 2016) to pay attention and address the environmental issue at an individual level instead of collective patterns. The cuts consumers into the environment directly with their positive attitude towards green behavior. That suggests that individuals have a strong desire to buy such goods and eventually increase consumer buying patterns. Such attitudes do not contribute to their mutual desire to publicly address environmental problems, which has a clear and vital effect on consumer attitudes (Jaiswal and Kant, 2018; Prakash and Pathak, 2017).

Hackett suggested a systematic model for addressing environmental problems, proposing that individuals look at various environmental issues differently, using multiple overlapping environmental evaluation dimensions. Assume the effect of green consumer products, predictable, competitive advantages, consumer behavior, and perceived balance on green behavior, depending on the degree of environmental issues, which may be high or low (Hackett, 1995; 1993). When the public is more interested in climate (Ghorbani and Xuan, 2018), it highlights the importance of associating this work with conscious behavior. Consumers' question is: To what extent can environmental concerns predict environmental friendliness? The research suggests the following hypothesis:

H1b: Environmental concern impacts environmental friendliness positively and significantly.

2.3. Environmental individual's social responsibility

Environmental changes have changed dramatically in consumer attitudes and behavior. Consumers demonstrate collective power through individual decisions and actions and voluntary engagement in environmental activities. This activity extends to several environmental behaviors, including membership of environment-conscious committees and environmental organizations participation, to influence management decisions to adopt environment-conscious behavior. The goal is to raise awareness and awareness of individuals' role in mitigating environmental degradation and increase their willingness to be part of potential solutions. High levels of environmental responsibility and a person's role in promoting behaviors, which improve environmental efficiency, will result.

Responsibility for solving the environmental problem at the individual level ranges from waste recycling behavior to green consumer behaviors (Barr, 2003). The focus of these people is not connected to their collective attitudes to overall environmental solutions but has a direct impact on the environment. It increases purchasing these goods and environmental friendliness (Pickett-Baker and Ozaki, 2008). The viewpoint is consumers' actions are directly related to their constructive attitudes towards green goods and environmental conservation.

Consumers engage in environmental issues and are encouraged to contribute to environmental sustainability through more environmentally friendly behaviors. Sustainable consumption concerns turn into a best-in-class ethical standard; the ultimate goal is to reduce environmental impacts, the statement question due to the probability of coordination. Consequently, individual consumption activity is increasingly seen, and thus demonstrating environmental friendship involves rational reasons to shift business towards more sustainable lifestyles.

Understanding the causes of addressing environmental situations is critical to developing frameworks and fair business practices approach. The environmental effects of the daily activities of individuals should be understood and maintained. We point out that the increasing significance of environmental trends has increased consumer-friendly behavior as consumers show their intensity and efficacy through their actions through individual buying decisions (Scott and Vigar-Ellis, 2014) and their participation in various environmental activities. The following theory suggests for stud

H1c: Environmental social responsibility has a positive impact on environmental friendliness.

2.4. Environmental conscious behavior

Environmental behavior or aware environmental behavior is essential for addressing environmental issues. The basis for delegating environmentally conscious actions consists of several trends, socially conscious consumers, and socially responsible consumer behavior (Cleveland et al., 2005; Krishan, 2001). Environmentally appropriate behavior, environmentally conscious. An environmentally aware consumer should have specific demographic characteristics (Kautish and Sharma, 2020; Kim, 2011; Muposhi, 2015). Numerous studies have been conducted on various demographic trends to

understand environmental behavior (D'Souza et al., 2007; Kautish and Sharma, 2020; Roberts, 1995; Roberts and Bacon, 1997; Sudbury et al., 2012). He claims that consumers can develop into environmentally friendly through all situations.

Determining optimistic or pessimistic attitudes about issues like eco-friendly goods (Carrete et al., 2012) and buying environmentally friendly products, and thus taking a very significant role in purchasing decisions (Fraj and Martinez, 2007; Kautish and Sharma, 2020; Rahbar and Wahid, 2011; Straughan and Roberts, 1999). Consumers are presumed to follow permanent behaviors based on knowledge, understanding, facts, and consequential decisions about products and services in the normal progression of attitudes towards products, and emotional sense of use, which keeps consumers purchasing products and services. The research suggests the following hypothesis:

H1d: Environmental conscious behavior has a positive impact on environmental friendliness.

2.5. Environmental friendliness

Consumer-conscious conduct refers to buying environmentally friendly or safe goods that are recyclable and environmentally efficient, and consumer avoids products that affect the environment and community (Davis, 1992; Jaiswal and Kant, 2018; Lee, 2009; Leonidou et al., 2010). Consumer behavior for green buying measuring in terms of consumer desire to purchase green goods and this deliberate action decides to buy such friendly products for environmental protection (Borin et al., 2011; Carlson et al., 1996; Jaiswal and Kant, 2018).

Behaviors influence consumer conduct. Many environmental researchers commonly use classical models with some variations to validate the intention to purchase and sell green product actions in environmental, behavioral research. A variety of environmental-friendly goods have also introduced updated behavioral approaches. (Scott and Jobber, 2000; Steg and Vlek, 2009), organic goods, and vegetables (Paul et al., 2016; Kim and Chung, 2011), environmentally sustainable materials, green products, and green purchasing actions (Jansson et al., 2010; Leonidou et al., 2013; Maineri, 1997; Mazar and Zhong, 2010; Nguyen et al., 2019; Prakash and Pathak, 2017; Sertyesilisik, 2019). Also, consumer-conscious conduct helps the environment, and society typically includes recycled papers, herbal goods, carrying bags, energy-saving lamps, household items. Such products were focusing on eco-sustainable manufacturing, recyclable, and low waste production.

Such arguments suggest that consumer behavior was not only conditioned by actions but incorporates individual cognitive influences, such as caring, empathy, and an individual's conscious social responsibility towards the environment (Gadenne et al., 2011) to deal with consumer intention to buy and sell gene activity. Environmentally aware behavior has prolonged stress as an unavoidable precedent for behavioral actions and real behavior in studies of green consumer psychology (Koo, 2018). Conscious environmental behavior requires a willingness to participate in consciousness-related actions.

Environmentally aware behavior is also generally seen in environmental studies as an attitude towards green goods or buying, which converts the person's feelings about buying environmentally friendly items (Cleveland et al., 2005). The effect of such particular actions on environmental impacts and environmental sustainability (Jaiswal and Kant, 2018; Scott and Vigar-Ellis, 2014; Zhao et al., 2014) and a real desire to actively contribute to environmental friendliness in every way. Ultimately, the environment's consumer-conscious actions can classify behavior patterns, while identifying behavioral intentions was difficult. Suggested the following hypothesis:

H1: Environmental friendliness has a positive impact on conscious consumer behavior.

3. Problem statement

With the growing value of the climate, conscientious consumer behavior, and the need to protect the environment and achieve environmental friendliness, it has become essential to change consumer behavior towards the environment through environmental awareness, environmental interest, and individuals' social responsibility and environmentally conscious behavior. Hence, the problem focuses on the effect of environmentally conscious consumer actions to achieve environmental friendliness?

The present work investigates the relationship between eco-conscious consumer behavior and environmental friendliness. Fig. 1 shows the conceptual research model built to explain the relationship between environmentally conscious consumer behavior and environmental friendliness.

4. Materials and methods

The research used quantitative and qualitative data collection approaches, the two methods used in combination with each cross-validation, and the other's findings. The quantitative analysis tool used was closed-questionnaire. The qualitative approach used was semi-structured interviews and observations. The survey tools were initially developed based on a comprehensive literature review and finalized in September 2019 after a pre-test by a group of 30 responses. Professors and educational experts have reviewed the questionnaires for validity. The statistical population consisted of Saudi Arabia university students, while the study linked to Bisha University students, where the number of surveys eligible for review is: (n=248). Besides, semi-structured interviews

arrange with people working in the Province of Bisha (n=20).

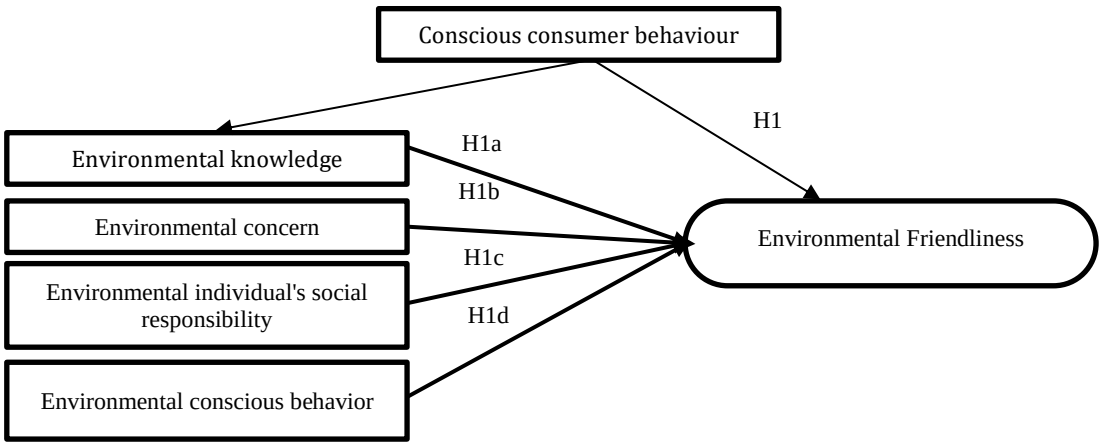

Fig. 1: Theoretical framework

The questionnaire data were analyzed using descriptive statistics (mean, standard deviation, coefficient of variation) to determine individual sample patterns around conscientious consumer behavior and eco-friendliness. Confirmatory factor analysis or structural equation modelling using AMOS (CB-SEM) to test research hypotheses and structure. Content research using to interpret and evaluate data from interviews. Specifically, the method of summarizing content analysis' was introduced. The text reduces step by step to produce information that shows similar concepts and ideas: these specific ideas are then classified and summarize.

According to Neuendorf (2002), work applied, and its approach is a simulation of the structural equation. Data were collected using a 47-point questionnaire. The goal is to determine the environmental friendliness effect of consumer-conscious behavior, and the reliability of the Cronbach's Alpha coefficient is 0,949. Experts have confirmed their validity.

Those interviewed were asked to discuss real issues influencing their perceptions of Bisha 's overwhelming friendliness climate. Every interviewer conducted an independent review of the interview content, identifying themes and structures related to "Environmental Consciousness, Environmental Concern, Environmental Social Responsibility, Environmental Conscious Behavior" in KSA and "Environmental Compatibility". Next, the researchers organized their results, hitting 22 frameworks for consumer-conscious behavior and eight environmental friendliness. The systems selected earn at least more than 75% support from interviewees, who also served as content analysts (Aiken, 2009).

The nature of the effects of consumer behavior and eco-friendliness, consumer views, consumers asked, 'What approaches can be developing to boost the effect between conscious consumer behavior and environmental friendliness?', the results in Table 1. The most significant views described were: Knowledge, concern, individual's social responsibility, conscious behavior, friendliness.

Table 1: Consumer perceptions on how to enhance conscious consumer behavior to the environmental friendliness

Common ideas	Number	Percentage
Consumer' views on environmental knowledge	5	22.10
Consumer' views on environmental concern	6	27.20
Consumer' views on environmental individual's social responsibility	5	19.70
Consumer' views on environment-conscious behavior	6	17.50
Consumer' views on environmental friendliness	8	15.50
Total	30	100.00

5. Results and discussion

Improving Ecologically Conscious Consumer Behavior on Environmental Friendliness, Respondents View Respondents have been asking for their views on improving the environmental impact of environmentally conscious consumer behavior on environmental friendliness. They were given 46 factors that could affect the effect and asked to rank their importance on the Likert scale in which '1' represented 'strong agreement' and '5' represented 'strong disagreement'. To determine the validity and reliability of the questionnaire's data, we used the Cronbach alpha test, which measures the degree of reliability and validity of the research tool's Cronbach coefficient and the results of this test shown in Table 2.

Table 2: Results of test reliability of the research variables

Variables	Number of Items	Cronbach's Alpha
Environmental knowledge	10	.8280
Environmental concern	09	.7960
Environmental Individual's social responsibility.	08	.8690
Environmental conscious behavior	09	.7810
Environmental friendliness	08	.8310

From Table 2, we notice that all the proportions of the questionnaire's dimensions and axes are substantial and more significant than the statisticians' reference average estimated at 70% and that Alpha Cronbach's coefficient for all

questionnaire items is equal to 0,849, indicating the validity and accuracy of the research method. Research survey characteristics can found in Saudi Arabia consumers' responses in the sample's Personal Information section. Table 3 shows frequencies and percentages for the demographic variables.

Male users are marginally higher than females, although this is a coincidence. Many consumers have a university degree, reflecting the relatively high level of consumers questioned by the standard of answers, providing researchers with a positive response to the questionnaire, and the ability to grasp the questions' substance. From the Table 3 results, the most significant proportion of consumer relationships with the environment are concentrated in the group 1-5 years by 26.6% and more than 21 years by 23.4. The represents environmental friendliness. Table 4 shows descriptive statistics.

Table 3: Frequencies and percentages for the demographic variables

Item	Measure	Frequency	Percent
Gender	Male	143	57.7
	Female	105	42.3
Education	Professional	3	1.2
	Secondary	18	7.3
	Diploma	14	5.6
	Graduate	113	45.6
	Postgraduate	44	17.7
	Doctorate	56	22.6
Experience	1 to 5 years	66	26.6
	6 to 10 years	53	21.4
	10 to 15 years	38	15.3
	15 to 20 years	33	13.3
	more than 21 years	58	23.4

Table 4: Descriptive statistics

Variables	Mean	Std. Deviation	Coefficient of variation
Environmental knowledge (EK)	1.8625	.97408	52.30
Environmental concern (EC)	2.1402	1.14063	53.30
Environmental individual's social responsibility (EIR)	1.8347	1.02005	55.60
Environment conscious behavior (ECB)	1.9323	.98788	51.12
Environmentally Conscious consumer behavior (CCB)	1.9566	.99414	50.81
Environmental friendliness (ER)	2.0131	1.13369	56.32

Note: CCB (EK, EC, EIR and ECB)

University of Bisha students showed they agree with all expressions of dimensions and variables; this demonstrates the importance of means, which verified the sample members' consciousness and interest in climate and environmental practices.

The validity of these hypotheses, independent sub-variables (Environmental Awareness, Environmental Concern, Social Responsibility of Environmental Persons, Environmental Conscious Behavior) and dependent variable (Environmental Compatibility) using as shown in Fig. 2.

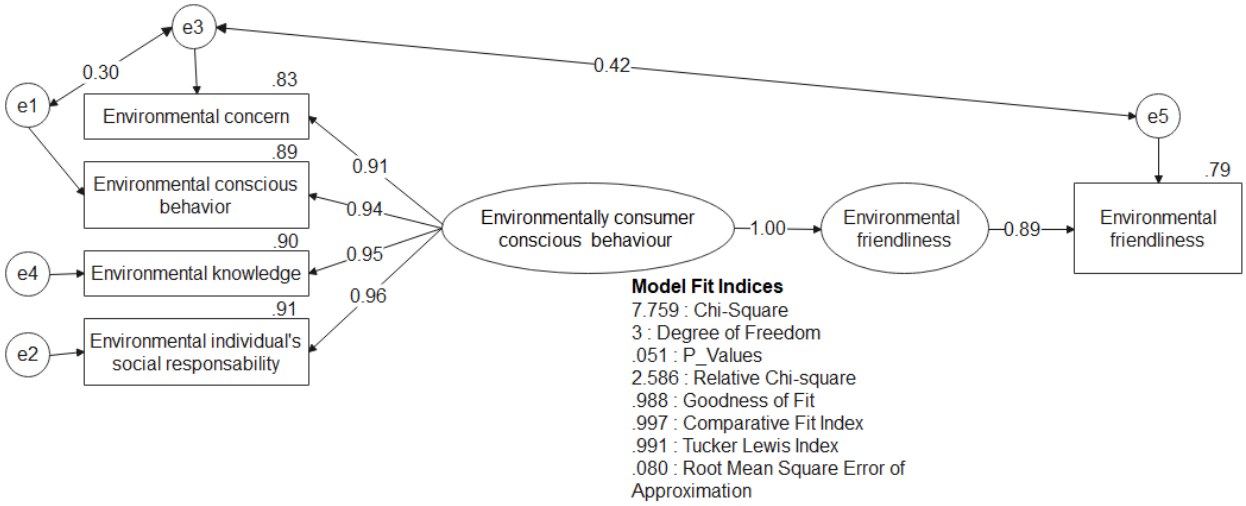

Fig. 2: Structural model

Fig. 2 indicates that Compatibility indices were obtaining by Structural Equation Modeling concepts and practice (Kline, 2005). Therefore, the proposed model (Fig. 1) is similar to fact and very reasonable, which pushes us to embrace the primary research hypothesis (H1: Environmentally conscious consumer behavior has a positive and significant impact on environmental friendliness). Fig. 3 shows **the** path analysis model.

Fig. 3 shows that the path analysis model accomplished by fit indices (Kline, 2005), but excluding the path that links the social responsibility of Environment Person and environmental friendliness as it is not relevant, as shown in Table 5.

Table 5: Regression weights of the path analysis model

Path			Estimate	S.E.	C.R.	P	Label
EF	<---	EC	.545	.052	10.485	***	par_1
EF	<---	ECB	.282	.070	4.050	***	par_2
EF	<---	EK	.188	.079	2.379	.017	par_3
EF	<---	EIR	-.108	.084	-1.277	.202	par_10

Table 5 findings show that hypotheses (H1a, H1b, H1d) are satisfied because their paths are significant,

except for the H1c hypothesis, their path is not significant.

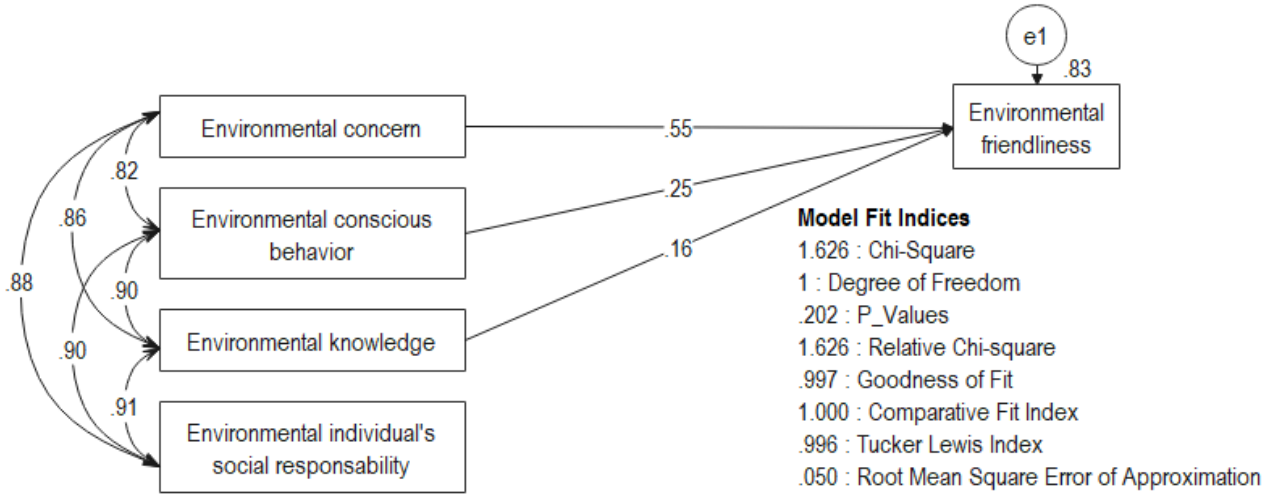

Fig. 3: Path analysis model

Continuous development and enhancement of environmentally conscious consumer behavior dimensions aspects contribute to environmental friendliness. Therefore, there is a statistically significant average positive effect between environmental conscious consumer behavior dimensions; environmental knowledge, environmental concern, environmental individual's social responsibility, conscious environmental behavior, and environmental friendliness at the level of Significant α=0.05, supporting the validity of the central hypothesis. This result, knowledge, and attitude as a factor have the largest influence on consumer behavior and similar results were confirmed in this study compared to that of Zhao et al. (2014).

6. Conclusion

The current study contributes in two ways to the literature on consumer behavior. First, the present study sets out a clear definition of the concept of environmentally conscious consumer behavior. In particular, the study of green consumption behavior contributes to understanding the moderate acceptance of environmental friendliness. Most defining factors in the frameworks, including environmental knowledge, environmental concerns, environmental, social responsibility, and environmentally-conscious behavior towards environmental friendliness, focus on environmentally-conscious consumer behavior to achieve environmental friendliness it is similar to results (Kautish and Sharma, 2020). This approach favors green behavior and fails to consider the environmentally-conscious consumer's behavior, that is, the green consumer, This result relatively different from what was found by Nguyen et al. (2019) in which he believes that "green attitude and intention are often found to influence actual behavior towards green consumption". Research into environmentally conscious consumer behavior may facilitate a direct comparison of conflicting consumer behaviors. Second, a conceptual model was suggested based on an extended consumer behavior model, including environmental literacy, environmental issues, social responsibility for the environment, and environmental consciousness. The conceptual model testing experiment used a sample in Saudi Arabia, which could provide a theoretical basis for future studies.

The current study also has social ramifications, considering that the Kingdom's 2030 vision for sustainable development relies on certain established and emerging powers. The researchers have proposed ambitious steps that would reduce adverse effects and strengthen positive results. The environmental effects of individual consumer behaviors and environmentally aware actions have not been considered pleasant surroundings. Consumers' interests, environmental concerns, and capabilities can be identifying. Their expectations and directions converted into behavior, but consumption growth has become a critical factor in creating and exacerbating environmental problems. It has become essential to influence consumer behavior and preferences by encouraging them to change their consumption patterns (Kilbourne and Pickett, 2008).

The analysis shows that the elements of responsibility and the ability to create environmental friendliness will change individuals' buying behavior and make them more likely to demand and protect environmental change. The relationship between conscious consumption behaviors has shown positive moderation. One might argue that the moderate effect on consumer behavior has been limited and is related to other factors; therefore, the environmental impact has been less critical.

The results show that individuals represent only average environmental activity levels and environmental friendship despite the individual's perceived environmental responsibility. Further research on the individual psychoactive factors affecting the environment is therefore required. As

far as gender is concerned, females exposing to similar levels of environmental friendliness to the highest level of males.

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Compliance with ethical standards

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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