**Impact of Consumer’s Eco-Friendly Attitudes on Their Purchase Intentions – An Empirical Analysis of Automobile Sector.**

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**ABSTRACT**

Since awareness has increased for environment protection, it is being global concerns for consumers and manufacturers to use green and environmentally friendly products with realisation to contribute to saving of environment. In this context, automobile sector has very important contribution in an economy of any country. A very large percentage of automobiles are using fuel, Co2 emissions have adverse effect on environment, and this is one of contributing factor for global warming**.** This study aims to investigate the effect of environmental values, responsibility feelings and environmental knowledge upon purchase intentions of Pakistani consumers towards environmentally friendly automobiles. This study utilises the causal research approach by testing the correlation existing between an individual’s environment attitude and its impact on his/ her intentions to purchase environment-friendly automobiles. It was found that there is a demand for environment-friendly automobiles amongst Pakistani consumers. However, at this stage they do have feelings of responsiveness towards environment protection and sustainability but are not willing to pay extra to purchase a hybrid or environment-friendly automobile. Furthermore, they are not willing to compromise on quality and comfortability when purchasing an environment-friendly automobile compared to a regular car. Contrary to this, they may be willing to settle for a relatively unattractive design and lower performance when buying an environment-friendly automobile compared to a regular automobile.

**INTRODUCTION**

Environmental issues have been in light of discussion for a couple of years. As public awareness has increased towards environmental issues, companies, as well as consumers, have realised the importance of consideration for environmental issues and trying to change their attitude and usage for the same.

The depleting conditions of the environment are major factor that has forced consumers and manufacturing companies to change their strategy and attitudes towards green and environmentally friendly products (Luck, Edwina, & Ginanti, 2009).

Since awareness has increased for environment protection, it is being global concerns for consumers and manufacturers to use green and environmentally friendly products with realisation to contribute to saving of environment. In same an essence, the main objective of green marketing is to provide consumers awareness for using green products, and by doing so they are contributing their part in protecting nature (Hartmann & Apaolaza, 2009)

The automobile sector has very important contribution to the economy of any country. A very large percentage of automobiles are using fuel, Co2 emissions have adverse effect on environment, and this is one of contributing factor for global warming.

The automobile is very important sector in any country’s economy. CO2 emissions are causing global warming which is massively changing the world climate adversely. A lot of ice-caps of Arctic Ocean and Antarctica have started to melt. Moreover, the protective ozone layer is getting damaged too, as according to the documentary “The Inconvenient Truth” by Al-Gore (2006), a large hole is said to be found in the ozone layer encompassing Antarctica at the Southern hemisphere of Earth. Most of the warming has occurred since the rise of heavy industrialisation, which has led to increases in emissions of anthropogenic greenhouse gas (GHG), specifically the carbon dioxide CO2 caused by land usage changes and fossil fuel burning activities (Intergovernmental Panel on Climate Change (IPCC), 1990).

A constant increase in CO2 emission is one of the responsibilities for global warming, and there is consensus on the point that until no major action is taken to reduce CO2 emission trend, the particular sector would face major setback (Bello, Solarin, & Yen, 2018)

Fossil fuels burnings lead to large amount of emission of CO2 and affect the climate. Residential, commercial, transportation and energy technology are impactful contributors to the CO2 emission. CO2 emission has trended the process of global warming and activated disaster to environmental process such as frequency of storms, floods and droughts (Goodall, 2010)

Pakistan happens to be located in the region of South Asia; therefore, a greater concern is there in the context of global warming and its adverse impacts upon the global climate and the associated impacts related to it. However, it is high time to switch to such sources of environmentally friendly alternative energy, if not completely but at least partially, especially in the automobile sector. According to a survey conducted in 2003 and 2004 in 25 European Union nations; more than 82% of energy is used by transportation in the European countries (Perujo & Ciuffo, 2010).

Summing it up, it can be said that this particular study aims at investigating the effect of environmental values, responsibility feelings and environmental knowledge upon purchase intentions of Pakistani consumers towards environmentally friendly automobiles. From the past literature, it is evident that environmental values, responsibility feelings and environmental knowledge are responsible for shaping an individual’s environmental-friendly attitude. That is the essential reason upon studying the effect of these three environmental attitudinal factors upon consumers’ purchase intentions towards environment-friendly automobiles.

**LITERATURE REVIEW**

Environmental knowledge, environmental values and responsibility feelings are the three components which largely influence the purchase intentions when purchasing environment-friendly automobiles as proposed by Kaiser et al., (1999). The responsibility feelings are additionally added into the rational-behaviour theory and norm-activation theory in the model proposed by Kaiser et al., (1999). Firstly, this is considered very essential as most research done on environmental attitude model forgets to address the moral dimensions (Kaiser et al., 1999).

Secondly, although the media hype created in the 2000s about becoming environmentally conscious may have changed the attitude of people towards environment, but the essential components of environmental knowledge, environmental values and responsibility feelings still are very important. Thirdly Kaiser et al. (1999) have utilised many other theories from past environmental attitude and behaviour researches, which has made this model fit for measuring the ecological intentions of consumers. Furthermore, this model has been applied upon two different continent’s population, which indicates it is accepted generally by all (Kaiser et al., 1999).

The third argument in support of using this model in this particular thesis is that the theory of planned behaviour is an accomplished construct used successfully in many previous kinds of research, which supports the fact that this model is highly suitable for this undertaken study as well (Ajzen, 1991; Godin and Kok, 1996). In a study conducted by Masser, White, Hyde, Terry and Robinson’s (2009), it indicates that even if some moral dimension aspects were added to predict the intentions and behaviours of people towards blood donation, the model gave accurate and reliable results. This further gives strong argument in support of the fact that this model should be used to predict consumer intentions for environment-friendly automobiles in this undertaken thesis.

***CONCEPTUAL FRAMEWORK***

**Environmental Knowledge**

**Environmental Values**

**Responsibility Feelings**

**Ecological Behavior Intentions**

***Environmental Knowledge, Values, Responsibility Feelings and Intentions***

According to Kaiser et al. (1999), environmental knowledge, environmental values and responsibility feelings when used together predict consumers’ ecological purchase intentions in a more effective manner which in turn affects the ecological behaviour of consumers.

To develop an environmental attitude; environmental knowledge is a pre-requisite (Kaiser et al., 1999). The concepts of systematic and action-based knowledge are segregated within the area of cognitive psychology. The functionality of the ecosystems is based on systematic knowledge of an individual. The relationship existing between CO2emission and the greenhouse is an example of systematic knowledge. It can be said that systematic knowledge is simple because it does not require knowing how an individual’s behaviour impacts the environment. Frick, Kaiser and Wilson (2004) believe that when a person has an understanding how his/ her behaviour is affecting the environment, this is action-based knowledge. Here it can be exemplified by saying that if consumers have this understanding that by using eco-friendly car, there would be less CO2emission. Intentions are used to mediate the subjective norms to predict the behaviour in the theory of planned action behaviour. Kaiser et al. (1999) used environmental values instead of subjective norms to forecast ecological behaviour. Environmental concern and behaviour are strongly related to a study by Schwartz (1994). The findings from his study suggest strong correlation existing between a person’s values and commitment to pro-environmental actions. Hence it can be said that a strong relationship exists between environmental values and ecological behaviour. This is very much supported by Vinson, Scott and Lamont (1977) in their argument that an individual’s values greatly influence upon actions in different situations. This can be exemplified by saying that if a company gets insight into the consumers’ values, then it would be in a better position to provide services which match consumers’ preferences.

Moral dimension was added by Kaiser et al. (1999) into his ecological behaviour model by combining the rational-choice theory and norm-activation theory. The reason why moral dimension should be incorporated in this model is twofold. Norm-activation model after the Kaiser model is the second most widely used model to predict ecological behaviour of consumer. This model, when incorporated with moral norms, measures ecological behaviour more effectively. The first reason is more practical, whereas the second reason is of more philosophical origin. Moral and conventional norms are used in this model which is basically connected to two different types of social emotions, one is the feeling of shame or embarrassment when the conventions are dishonoured and the individual abuses the moral standards (Keltner and Buswell, 1996). Both these norms do contribute towards affecting ecological behaviour but in different ways. Conventional responsibility means accepting and practising all those conventional manners which are socially acceptable in society. For example, it is a conventional manner to respect elders or not smoke in front of elders in Pakistan; but an individual might only practice this conventional manner to gain acceptance in surrounding. However, he/ she may, in reality, be against such conventional manners, but to gain approval of society is compelled to practice these conventional manners. Environmental responsibility is generally perceived as moral-related since it is believed that environmentally conscious individuals have moral thinking. In another study, it was found that social norms only affect the behaviour of an individual; and are aware of it strongly (Cialdini and Goldstein, 2004). This means that norms are ineffective in affecting our actions if they are not deeply rooted in our consciousness.

There seems to exist some barriers to pro-environmental behaviour (Blake, 1999). Personal responsibility is one of those hurdles which is related to the locus-0f-control concept. This means that in some situations, an individual cannot influence that situation through his/ her own behaviour, therefore acts in a manner which is less pro-environmental. Thus, keeping responsibility feelings into the model is justified (Kaiser and Shimoda, 1999).

In this particular thesis, ecological behaviour intentions are of central value as used previously in the theory of reasoned action (Ajzen and Fishbein, 1977). In the model proposed by Kaiser et al. (1999), ecological behaviour intentions are a function of environmental values, environmental knowledge and responsibility feelings. Hence the stronger the intentions, there is stronger likeliness that the behaviour would be performed.

***Proposed Hypothesis***

H1: Responsibility feelings positively influence upon the ecological behaviour intentions to purchase environment-friendly automobiles.

H2: Environmental knowledge has a positive influence on ecological behaviour intentions to buy environment-friendly automobiles.

H3: Environmental values have a positive influence on ecological behaviour intentions to buy environment-friendly automobiles.

**RESEARCH METHODOLOGY**

This particular study utilises the causal research approach. According to Malhotra (2004), causality is with the increase of occurrence of x, the probability of occurrence of y increases. This study specifically revolves around the factors which affect the intentions of an individual and to inspect the relationship between them. Kaiser et al. (1999) model is adapted for this particular study, and this model is an extension of Fishbein and Ajzen’s (1975; 1980) theory of reasoned action. In this study researcher is testing the correlation existing between an individual’s environment attitude (responsibility feelings, environment values and environment knowledge) and its impact upon his/ her intentions to purchase environment-friendly automobiles. The theory of reasoned action is still believed to be a fundamental theory for predicting behaviours especially in the area of green marketing and green consumption. Although this theory is present in its revised form, still is popular among researchers for studying consumer behavioural intentions since its inception in the 1980s. Survey method is used to collect the data from participants to analyse the attitudes of people toward environment and its influence upon their behavioural intentions to buy environment-friendly automobiles.

The 500 Responses of the people from the province of Punjab (Pakistan) are collected in the cities of Sialkot, Gujranwala, Waziarabad, and Gujrat cities, because there are metropolitan cities and many motors dealers are present in this region and another reason for selecting these cities is this that more educated and high-income consumers reside in these 04 larger cities of Punjab. Popular car dealers are present in this region are Indus Motors, Suzuki Motors, and Toyota Company etc. The data is collected from those individuals who are involved in purchasing cars directly. Cronbach’s Alpha test was used to measure internal consistency of questionnaire (Henning, Karlsson, & Muller, 2011). Initially univariate analysis was done to find general information about the data in the form of frequency distributions of gender, age and other such variables. After univariate analyses, factor analysis was performed to reduce the number of variables. It is easier to apply multiple regression analysis on fewer numbers of variables (Malhotra, 2004). Finally, regression analysis was performed to understand the relationship existing among the dependent and independent variables (Henning, Karlsson, & Muller, 2011).

The total numbers of respondents involved in this study were 500, and they belonged to 04 different cities; Sialkot, Gujranwala, Wazirabad and Gujrat. Out of 500 questionnaires, 47 questionnaires either got wrong responses or missing responses. Therefore, the descriptive analysis was performed only on those questionnaires which were valid. The respondents’ trend shows that males were in the majority compared to women. There were 337 males and 116 females who responded to the questionnaire, as indicated in table 4.1. As far as age group is concerned, it is predominated by 31 and older age group, 56.29% respondents fall in this category. This is followed by 28.7% respondents who fall in the age group of 21-30 years whereas only 15% respondents fall in below 21 years’ age group.

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| --- | --- | --- |
|  | Frequency | Per cent % |
| Male | 337 | 74.392 |
| Female | 116 | 25.60 |
| Total | 453 | 100 |

**Table 1: Gender of Respondents**

**Table 2: Age of Respondents**

|  |  |  |
| --- | --- | --- |
|  | Frequency | Per cent % |
| Below 21 years | 68 | 15.01 |
| 21-30 years | 130 | 28.7 |
| 31 and older | 255 | 56.29 |
| Total | 453 | 100 |

|  |  |
| --- | --- |
| **Construct** | **Cronbach’s Alpha Score** |
| Environmental Responsibility | 0.589 |
| Environmental Values | 0.812 |
| Environmental Knowledge | 0.789 |
| Behavioural Intentions | 0.755 |

**Table 3: Cronbach’s Alpha scores measuring internal consistency**

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| **Table 4: Model Summary** |
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| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | Durbin-Watson |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .743a | .552 | .546 | .41159 | .552 | 85.584 | 3 | 208 | .000 | 1.908 |
| a. Predictors: (Constant), Responsibility feeling ,environmental value, environmental knowledge |
| b. Dependent Variable: behavioral intention |
|  |

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| --- |
| **Table 5: ANOVAa** |
| Model | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 43.495 | 3 | 14.498 | 85.584 | .000b |
| Residual | 35.236 | 208 | .169 |  |  |
| Total | 78.731 | 211 |  |  |  |
| 1. Dependent Variable: behavioural intention

b. Predictors: (Constant), Responsibility feeling, environmental value, environmental knowledge |
|  |

*H1: Responsibility feelings have a positive impact on the ecological behaviour intentions to buy environment-friendly automobiles.*

*Rejected*

*H2: Environmental Knowledge has a positive impact on ecological behaviour intentions to buy environment-friendly automobiles.*

*Rejected*

*H3: Environmental values have a positive impact on ecological behaviour intentions to buy environment-friendly automobiles.*

*Accepted, α = 0.05, using Environmental values factor 1*

**RESULTS AND CONCLUSION**

From the results of this study, it is quite evident that there is a demand for environment-friendly automobiles amongst Pakistani consumers. However, at this stage they do have feelings of responsiveness towards environment protection and sustainability but are not willing to pay extra to purchase a hybrid or environment-friendly automobile. Furthermore, they are not willing to compromise on quality and comfortability when purchasing an environment-friendly automobile compared to a regular car. Contrary to this, they may be willing to settle for a relatively unattractive design and lower performance when buying an environment-friendly automobile compared to a regular automobile.

This has strong implications for the manufacturers and marketers of environment-friendly automobiles. If the manufacturers of environment-friendly automobiles can improve radically upon quality and comfortability along with design and performance compared to a regular car; chances are that they would be able to attract the consumers towards environment-friendly automobile purchase compared to a regular car.

Marketers should focus on highlighting strong aspects of an environment-friendly car that it does not consume fuel but rather runs off electricity. So, fuel efficiency and economy are there. Moreover, the marketers should also initiate environment protection awareness campaigns to further aware the consumer how he/ she is polluting the environment with CO2. This would definitely arouse feelings of moral consciousness and ultimately lead the consumer to go for an environment-friendly automobile when the option of a better and more reasonably priced regular automobile is available.

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