Prioritizing green consumer purchasing attributes: an interpretive structural modelling methodology

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Abstract: Protecting the environment and mother earth has assumed greater importance in the past few decades. Producers and consumers worldwide are making a radical shift towards green products, further adding remarkable value in the direction of sustainable economic development. The fact that the phenomenon of green consumer purchase is at a nescient stage in India shows that more research needs to be done in this area. This makes it crucial to understand and prioritize the attributes that lead to the purchase of green products. This study applies ISM methodology and provides a complex contextual relationship among characteristics through diagrammatic representation that enables marketers to precisely understand the consumer prioritization attributes at the time of green product purchasing. It highlights consumer insights and provides knowledge to the sellers about prime importance aspects, and act as a catalyst in the culmination of green purchase behaviour. This research is based on attributes classified through the literature survey followed by an expert panel discussion.

Keywords: Environment, Green Purchase, ISM, Consumer Behavior, Prioritization

INTRODUCTION

The Indian economy is growing by the day, and the environment is facing negative consequences due to rapid economic development. It is getting essentially crucial to make sure that we live in a cleaner air due to the widespread incidence of diseases and intermittently depleting healthy environment. According to the Global environment outlook6 report, huge million tons of waste is produced daily, leading to a rise in earth's temperature, which is harmful to human civilization. Due to this, saving the planet is becoming the buzz word these days. For the sustainable development of the world, many international organizations are issuing guidelines for protecting the globe's environment. The buyers' consumption pattern is also a matter of concern due to which companies are focusing on manufacturing eco-friendly products and green consumer purchasing behaviour. Without an in-depth understanding of green consumer behaviour, it is hard to devise effective marketing strategies.

Responsible consumers take absolute responsibility for their consumption patterns and attempt to bring about social change through their purchase behaviour. (Moisander, 2007). Green consumption is increasingly coming up as an opportunity for sellers to contribute to the noble effort of saving the environment. The sheer inconsistency in attitude & behaviour regarding the green purchase and lack of proper reasoning behind it generates curiosity to identify factors predicting green purchase behaviour. (Joshi, 2016). Thus, the study's primary objective is to understand the green consumer purchasing behaviour of Indian youth based on TPB by ajzen (1965). This research will explain the contextual interaction among different attributes of green purchasing behaviour.

This work attempts to build a framework of influencing factors based on the theory of planned behaviour (TPB), the theory of reason action (TRA), that impact consumers green purchase behaviour. The study further gives a direction to the sellers in strategizing their marketing efforts to garners maximum results. The research chooses to study young educated consumers between the age group of 18 to 25 as they are a driving force in bringing about sustainable change in terms of responsible consumption. Further, it can be expected that the change introduced by these young minds stays for long as it is passed on to posterity.

LITERATURE REVIEW

Much work has been done on green consumer behaviour and its association with the theories as mentioned above. Theory of planned behaviour professes that an individual's behaviour is guided by his intention to perform (that behaviour) or not; this intent further stems from factors like attitude, subjective norm and perceived behavioural control. (Bezzina, 2011). Attitude can be described as an emotion that helps determine an individual's positive or negative approach towards the behaviour. Subjective norm is the perception of an individual about the social norm and whether he should behave accordingly. Perceived behavioural control indicates the perceived ability of an individual to perform the behaviour.

(Joshi, 2016) found six variables of green purchasing behaviour: ' social influence', 'attitude towards green purchasing', 'perceived environmental knowledge', 'recycling participation', 'eco labelling', and 'exposure to environmental messaging through social media.

Eco-labelling

(Speer 1997; Ottman, 2001) established that sometimes buyers do not expect very high functional performance from environmentally beneficial products. Researchers have also found that mere positioning of a product as 'green' or 'environmentally safe' is often enough for it to be a market hit and can be used as a differentiation strategy in a market where several products have similar features. (Ottman, 1995). (Cheung, 2019) studied that consumers believe in buying products that have been manufactured under rigorous standards of eco-certification programs. (Dugbjerg, C et al., 2014) explored a positive relationship between consumers awareness, labelling attributes, and the trust in them and their likeliness of buying organic goods.

Attitude

It is crucial to understand what kind of attitude consumers have towards environmentally safe or green products. (Sethi V, 2018) indicates that the best predictor of green purchase intention of a buyer is their attitude towards it. (Cheung, 2019) established a positive relationship between buyers attitude for ecological benefits of green products and their purchase of such goods. (Hidalgo-Baz et al. 2017) have suggested that the customers' positive orientation related to sustainable products' ecological benefits and their knowledge about such products are mechanisms that might reduce incongruities between buyers attitudes and their green purchase behaviour. (Bartels. J et al. 2010) have discussed that factors like brand attitude and knowledge relating to a particular organic brand of food products have affected such products' buying behaviour. The study indicates that brand attitude mediates the effect of brand knowledge on green buying behaviour.

Environmental concern

A buyers green purchase decision is rife with constraints that develop resistance towards environment-friendly behaviour. (Manaktola, 2007). This is where the theory of planned behaviour is pertinent as it explains factors that play a role in deciding consumers green purchase behaviour. (Hutchins and Greenhalgh, 1997) have suggested that the green purchase intent is highly motivated by his concern for the environment. (Kumar et.al, 2014) Buying green products generally develops because of a positive attitude towards environment with a sheer sense of responsibility and social commitment to maintaining a healthy environment. They have also examined that ecologically conscious consumers are actualized and self-aware in such a way that they are not just concerned about their needs but also take cognizance of society's needs at large. (Mishra P et al. 2017) found that buyers these days are ready to integrate environmental concerns with their lifestyle choices and serve the dual purpose of fulfilling the requirement and saving the environment.

Price

Price is one factor that plays a pivotal role in the purchase decision of a consumer. (Gadema and Oglethrope, 2011; Mai and Hoffmann, 2012). Sometimes buyers find high prices as a limiting factor in green consumption. (Gleim et al., 2013; Paul and Rana 2012; Vega- Zamora et al., 2014). Some green goods like organic products are considered costlier than other products (Aslihan Nasir and Karakaya, 2014; Essoussi and Zahaf, 2008); statistics indicate that consumers do not take high price much into consideration while buying an eco-labelled product. (Grankvist and Biel, 2001). (Daangi. K, et.al 2020) found that price could be one of the limiting factors that might hinder organic food purchase intention into a final purchase.

Perceived Value (Utility)

Perceived value plays a significant role in instilling green purchase intention among buyers. (Reinhardt, 1998) noted that consumers who are more sensitive towards environmental concerns might be willing to pay a higher price to the tune of more than 5 percent for products that offer environmental benefits. This happens when consumers perceive themselves directly getting benefitted rather than a more significant benefit to society. (Ottman, 1992: Gallagher and Kennedy, 1997: Marcus, 2001). (Fleith de Medeiros J, Duarte Ribeiro JL, Cortimiglia MN, 2015) have suggested that attributes like performance as per the requirement of a product's customer and ecological characteristics positively correlate with the buyers' purchase intention in the Brazilian context. (Aris Y.C. Lam et al., 2016) investigated a robust positive effect of perceived value on repurchase intention, green trust, and consumers' satisfaction.

Media

(Biswas A, Roy M, 2014) explored the relationship conditions between government and media initiatives in advocating environment protection through responsible purchase behaviour and its impact on green consumption. (Sharma, M; Trivedi, P, 2016) found that eco advertising helps sell the product better as buyers show a positive response towards such campaigns. (Ainsworth Anthony Bailey et al. 2016) have deliberated that PR, media, and advertising stimulate green attitude, thereby further mediating a consumer's green purchase intention. (Orpha de Lenne, Laura Vandenbosch, 2017) have evaluated the role of social media content used by eco-activists and green apparel brands in developing a positive attitude and norms of buying sustainable apparel products among consumers.

Social influence

(Biswas A, Roy M, 2014) suggests that the consumer base with a higher inclination towards items with green credentials is more likely to influence their green purchase decisions based on peer opinion or positive word of mouth from friends and family. (Grace K. Dagher and Omar S. Itani, 2012) found that the impact of social

norms acquired from society can influence consumers' ecological buying behaviour. (Rizwan et al. 2012) investigated the fact that people having an approach of collectivism are more liable to get influenced by communal advice, thereby increasing environmental visibility through green purchasing. (Varshneya et al., 2017) have presented a contradictory finding on this aspect, stating that the purchase of products like organic clothing operating in the introductory stage of their life cycle is not impacted due to social influence in a collectivist type of society. (Nam. C et al., 2017) investigated the positive effects of various factors, including subjective norms on buyers purchase intention of green sportswear products.

Personal Norms

(S. Bashir et al., 2019) examined personal norms as a crucial aspect that mediates a positive relationship between the consumers' ecological consciousness and green lodging intentions. (Christian A. Klo¨ckner, 2009) has indicated that individuals with solid subjective norms give high importance to the organic production of products like milk. (Quoquab. F et al. 2020) have argued that there is a positive relationship between personal norms and ecological buying behaviour. They have established that environmentally conscious buyers develop a subjective norm that motivates them to purchase green cosmetics to save the environment. Also, satisfying this norm gives them personal happiness. (Kim. H et al. 2012) have presented a contradiction to the above arguments by indicting that subjective norms are not good predictors of green consumption behaviour.

Objectives of the study

➢ To develop a hierarchical structural model using Interpretive Structural Modeling technique (ISM) for prioritizing the green consumer purchasing behaviour in the Indian context.
➢ To understand the sequencing, prioritization and contextual relationship among the variables of green consumer purchasing.

INTERPRETIVE STRUCTURAL MODELING (ISM)

ISM is a complex technique for analyzing and structuring the relationships among various factors to study their combined effect in influencing a particular phenomenon. (Watson, 1978; Sage, 1977; J. N. Warfield, 1982). This analysis gives an output in a multi-hierarchy model and a digraph that depicts interrelationship among the defined variables. It helps the decision-maker visualize the complex relationship among the set of variables to comprehend the situation. Interpretive Structural Modeling is an operational research technique for solving the philosophical problems in social science research; this method helps individuals, mainly nominal group or experts, in ranking the set of variable, prioritizing set of enablers in Human resource management (Li, T.B. and Li, S.D), policy evaluation, supply chain (Gorane, S.J. and Kant) and Green supply chain management (Govindan, K., Kannan, D., Mathiyazhagan, K., Jabbou).

Methods:

The researcher has identified several variables for understanding the green consumer purchasing behaviour from the literature review and expert's opinions. A lot of previous studies were reviewed to recognize the variables for prioritizing green consumer purchasing attributes. A discussion session of an expert from academia and industry was organized to find out the different variables. After the brainstorming session, eight relevant variables were emerged to explain green consumer purchasing behaviour. These variables are 'Social Influence', 'Attitude', 'Personal norms', 'Perceived values', 'Price', 'Exposure to environmental message through media', 'Eco labelling' and 'Environmental concern' in reinforcing green purchase behaviour of consumers.

Based upon the above identified variable, a structured questionnaire was designed. The questionnaire was made on expert advice. The first draft has been reviewed by academia and industry expert. As per feedback, some questions were modified, and some redundancies got eliminated. A final questionnaire was prepared to survey young Indian consumer between the age group of 18 to 25 years. They were asked to rate each driver based on a five-point Likert scale. Questionnaires were filled directly by the respondents. The responses on all 75 questionnaires were received without any missing data, and the Cronbach's-Alpha coefficient was 0.72, which indicates acceptable reliability of the questionnaire.

ISM Methodology and Model Development

The mathematical base of ISM method can be understood in reference works (Harary et al.1965); on the other hand, Warfield (1974) has shown a philosophical side. In recent years, ISM approach has been extensively used for policy analysis. The following steps were involved in model development, applying ISM methodology (Ravi and Shankar 2005; Sage 1977; Warfield 1974):

Step 1: Identification of components pertinent to the problem, which are variables of the study.

Step 2: Based on the variables that have been identified in the above step, a contextual relationship has been developed among them based on which sets of variables were analyzed.

Step 3: Development of a Self-Interaction Matrix (SSIM) of the relevant variable showing pair-wise relationships.

Step 4: With the help of SSIM, the final reachability matrix has been identified and further checked for transitivity. In this study, software develops a model based on pairwise comparison and transitive logic. According to transitive sense, if a variable A is related to B and B is associated with C, A must be related to C.

Step 5: The reachability matrix established in the above steps has been divided into different levels.

Step 6: In light of the connections given above in the reachability framework, a block diagram is drawn, and transitive connections are taken out.

Step 7: The digraph so obtained has been changed over into an ISM, by replacing variable nodes with proclamations.

Step 8: The final model was then inspected by specialists to check for theoretical irregularity and making the essential alterations.
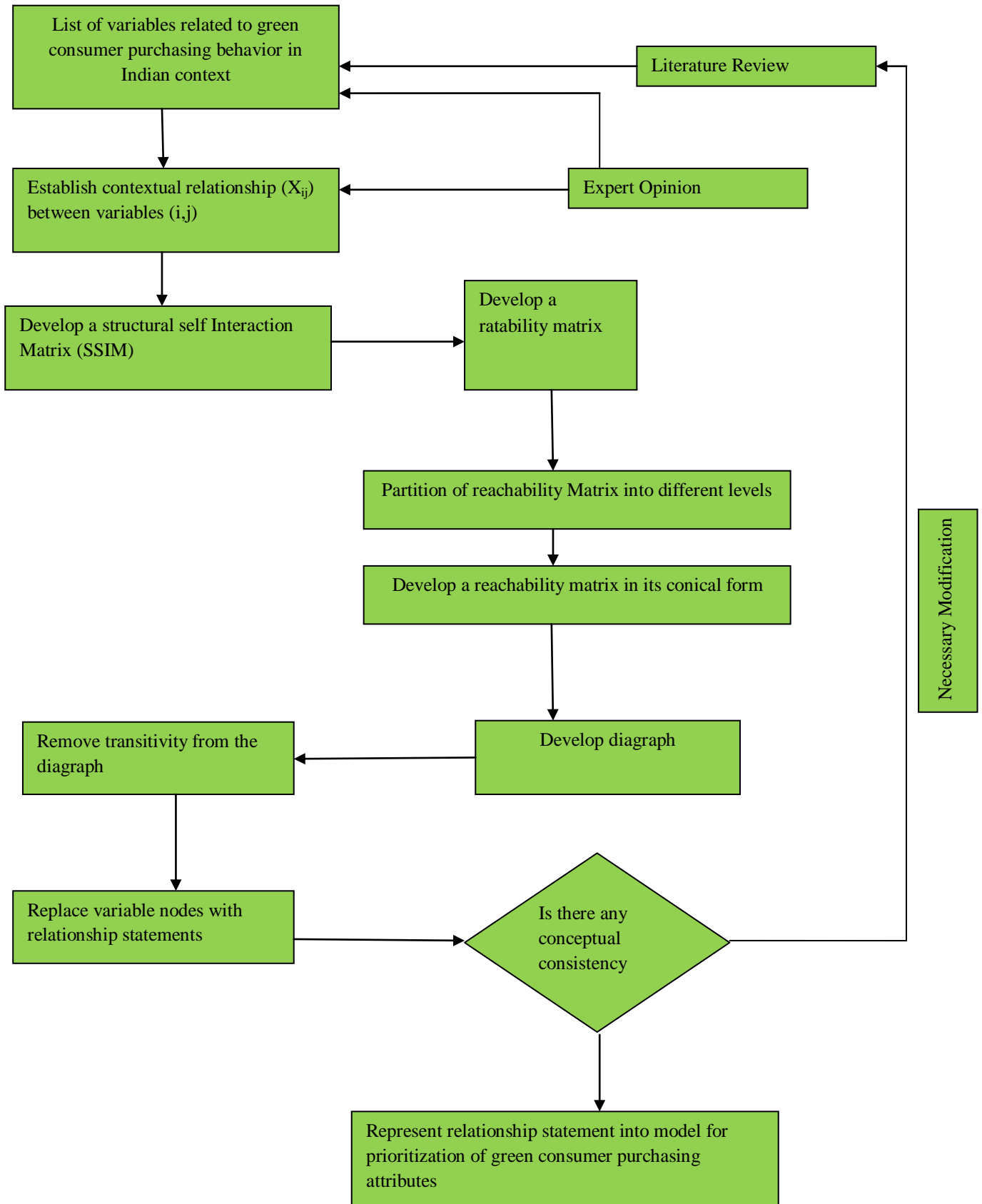
Source: Flow Chart of ISM Process (Ravi and Shankar 2005)

In this study, the researcher has used ISM software. During the process respondent ranks different variables as asked by the researcher in the questionnaire. Then the software pairs the variables as per ranking given by respondents and determines the relationship among them. Finally, it displays an ISM model. The model developed by the software is shown in fig 2

DISCUSSION
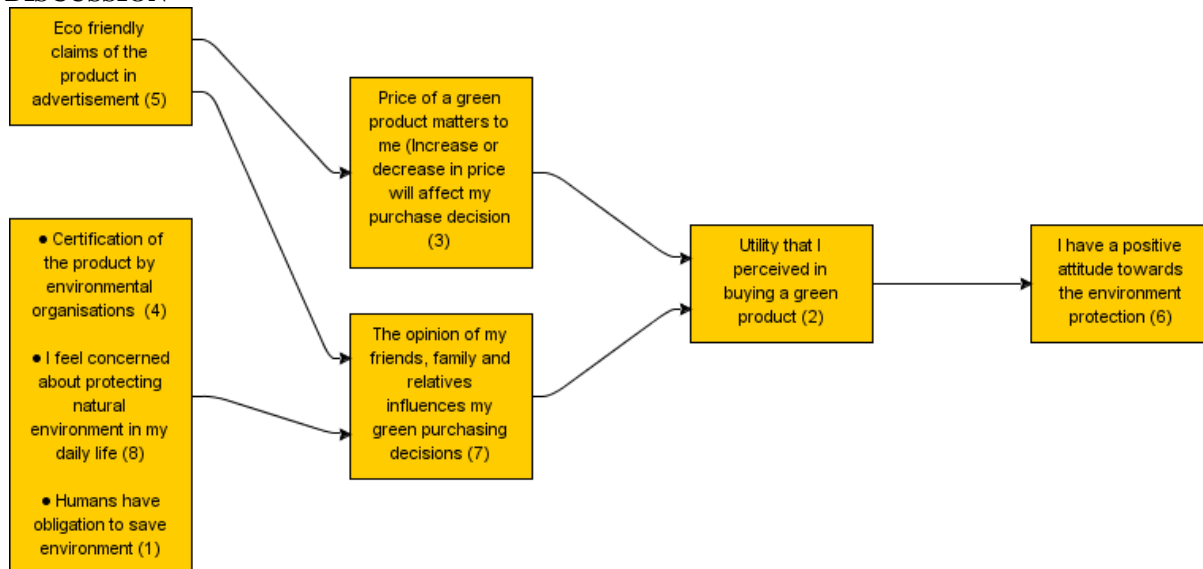
Figure: 2

From a theoretical point of view, the current study links the literature gap in green marketing. The findings have improved contemporary literature by suggesting how purchasing variables interact and what priorities are most crucial from a strategic viewpoint.

The above model states that 'Exposure to environmental messages through media'**, '**Ecolabeling', 'Environmental concern' and 'personal norms' are the primary drivers placed at the bottom of the hierarchy. As per the model, these variables will support consumers' decision-making ability to purchase green products. Various studies suggest that 'exposure to environmental message through media' will positively affect young consumers' consciousness (Good, 2006; Holbert et al., 2003). 'Ecolabelling' is the second variable at the bottom of the hierarchy; it creates confidence and faith in consumer while the purchase of green product (Esther Tang et al., 2004). 'Environmental concern' always leads the favourable green purchase decision. Many studies found a positive relationship between environmental concern and ecologically responsible behaviour, converting to green consumer purchasing behaviour. The model developed in the study shows personal norms as the last variable at the bottom of the hierarchy. It refers to individual morals that always affect behaviour (Jansson et al., 2010). 'Personal norm' has a significant impact on green consumer purchasing decision (Moser A.K, 2015). In the above model, four variables, i.e. 'Exposure to environmental messages through media'**, '**Ecolabeling', 'Environmental concern' and 'personal norms', make a strong base for the hierarchy. ISM Model depicts a complete understanding of these four variables' relationship through logical structure at the bottom of the model. Marketers need to understand the contextual relationship among them. From a managerial perspective, ' exposure to environmental messages through media' is significant, while ecolabelling can make the product more authentic and faithful in the market from manufacturing views. In terms of the model's consecutive relationship, all four variables set a vital precedent in this model's overall successful implementation.

They are referring back to the model in the figure.2, 'social influence' and 'price' are situated in the centre of the model. It clearly shows that they play a pivotal role in connecting the preceding and subsequent variables. It has been found in many pieces of research that social groups influence green purchase behaviour (Khare et al., 2013; Cheah &Phau, 2011; Lee, 2009; Zelezny et al., 2000). Price is another sensitive matter for Indian consumers; it is directly linked with purchasing decision among youth. Several studies show that the Indian market is highly price-sensitive (Yadav and Pathak, 2017; Prakash and Pathak, 2017). The above model also indicates that the price plays a tactical role in the green consumer purchasing decision. However, various studies yield contradictory results when it comes to price. Jensen and Coelho (2011) found that an insufficient desire to pay a high price is a significant obstacle to buying green products. Furthermore, Yadav and Pathak (2017) and Prakash and Pathak (2017) found that consumers are keen to pay high prices for eco-friendly products.

Further, it is observed that 'Perceived Value' is the second most crucial variable in the above model. Doszhanov et al. 2015 found that perceived value positively impacts purchase intentions. Moreover, the Theory of Reasoned Actioned (Ajzen and Fishbein, 1975, 1980; Bandura, 1977), and this study specify that consumers' apparent value plays a crucial role in procuring green products. In the above model, 'Attitude' is the most significant variable. Many studies indicate that attitude is a better predictor of green behaviour than other variables (Pedder and Forester, 2005). Researchers' explain the importance of attitude and green purchase behaviour.

CONCLUSION:

Environmental degradation increases due to economic development and changing pattern in lifestyle. But concerning green consumer purchasing behaviour, it is tough to find a universal solution for sustainability. This research offers a deeper insight into the young Indian consumer psyche and their priorities while purchasing decisions. As per the model developed in this research, "Attitude" has been identified as a top priority variable during the green purchasing decision. Consumer "Perceived value" is the second priority variable; however, "Price" and "Social Influence" are also playing the role as vital strategic variables in the above model.

Based on the contextual relationship found in the above model, the following managerial insights are established:

1. The study identifies that 'Exposure to environmental messages through media'**,** 'Ecolabeling', 'Environmental concern', and 'personal norms' play an important role in green consumer purchasing decisions. Therefore, green product manufacturing companies should pay attention to these basic variables. 'Personal Norms' and 'Environmental concern' are the psychological aspects; when these aspects will connect with physical evidence like 'Ecolabeling', it will make a strong base in the consumer psyche. Then 'Exposure to environmental messages through media' will give a thrust for purchasing the green consumer products.

2. The research reveals two linkage variables, ' Price' and 'Social Influence', present at the centre of hierarchy in Interpretive Structural Modeling. It means 'Price' and 'Social Influence' will support different variables in order. In the previous literature review, many researchers also suggested that 'Price' has been a sensitive matter in emerging economies like India and' social influence' has already been a well-proved aspect in green consumer purchasing. This being the case, managers should pay attention to 'Price' because it is a central strategic variable in the above ISM Model. Apart from this, green marketers should create social awareness in society, which will make a common social conscience and lead to 'Social Influence' favouring green purchase behaviour.

3. It has been found in the research that 'Attitude' is located at the top of the hierarchy; therefore, it is the most crucial variable in the green consumer purchasing decision. Hence the study establishes that marketer should engage in media planning with a sharp focus on developing a positive green purchasing attitude.

Even though the suggested hierarchical model has not been scientifically validated, structure equation modelling can test the relationship among the variables as shown in this model. Thus, SEM may be applied to the proposed ISM model for future research. This sequence researcher may empirically test the proposed ISM model for the different socio- economic class and geographical locations with larger sample size.

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