

Purchase Decision of Online Shoppers towards Green Products



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Abstract: *Technological advancements in this internet era, encompasses wide choice of online marketing strategies. Environmentally sustainable products or green products are of wide importance due to its efficiency in keeping the environment clean and pleasant. Green products are highly demanded by the consumers and their purchase intention through online mode is increasing day by day. Online marketing strategy is executed by web retailers for a wide range of green products. Immense studies have been done in analysing the decision of customers in demanding green products through online. The present review paper discusses more about the online customers demand, online privacy concern and the decision strategy in buying the green related products. In addition to this, the lead factors that influences customer’s purchase intention and the optimizing strategies for an efficient online purchase decision is too included.*

Index Terms: *Green products, Online shopping, Purchase decision, Eco-friendly, E-commerce*

I. INTRODUCTION

Advancement in the field of technology and e-commerce for about past two decades, consumers rely on online purchasing and it is used as a tool for buying wide range of products. Internet network environment improvises the interaction process, ultimately leading to pertinent marketing strategies (Xia *et al.*, 2019). Internet is a mean of communication for organizations and consumers. Interaction between consumers and green brand retailers are possible with mobile mode of communication and social media like YouTube, Twitter, LinkedIn and Facebook. It paves the way for electronic word of mouth marketing, which includes the informal communication about the reviews of products and servicing. The communication may be positive or negative and it act as a source of information to the consumers (Dixit *et al.*, 2017). By 2017, there are about 3.6 billion internet users, interpreting the revolutionary change (Internetlivestats, 2017).

India occupies third position in relation to harvesting area under organic management. Among the world organic producers, India stands first and ninth in organic harvesting area (Willer and Lernoud, 2018). Choice of consumption depends upon the environmental standard, ethical value and societal norms (Kushwah *et al.*, 2019). Green products are proved to be environmentally safe and online retailers invest money and launch new products with great sustainability. Green products are similar to conventional products in terms of functioning, the difference lies in the non-hazardous nature of the products towards the environment. Green product also means the energy conservation, environmental protection and minimizing the pollutants. Political, ecological and social dimensions too should be taken under consideration for a good trading effect (Junior *et al.*, 2015). Corporate now refocusing its strategy to develop the strong customers to their brands for keep the customers for long duration, which will give positive results in brand equity (Sriharan and samudhrarakumar, 2008).

Specifically, the movement of agricultural goods through online shows a good sign of online acceptance by the consumers. Even though, online consumption behaviour for agriculture products is at the initial stage, it gains a sound effective momentum. Due to poor development of online shopping market and concerned security problems, there is a lag in online purchasing of agricultural products (Zhao *et al.*, 2017). The mean annual growth rate for online agricultural product is 115.64%, reproduced by the Alibaba E-commerce online shopping, reported in China Agricultural Products E-Commerce Development Report (CECRC, 2015). China Online Shopping Market Research Report from China Internet Network Information Centre release a report mentioning the highest online shopping customers, about 50%, with 60% educated, belonging to the age group of 20-29 years. About 35% constitutes the employees working in a company. In online shopping place, freelancers and self-employed persons constitute about 19.8%. Middle income people account for 30% of online shopping (CNNIC, 2015). Brand awareness has a strong relationship with brand loyalty and it is one of the core steps to strong brand equity (Sriharan et al, 2008).

Manuscript published on 30 September 2019

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Table- I: E-Commerce sales in India

India	Total retail sales (%)	Reference
2018	1.4	eMarketer, 2014
2017	1.3	
2016	1.1	
2015	0.9	

2014	0.7	
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Modern society is more environmental conscious and so, the issues related to the environment also gains popularity, thereby, influencing the online marketing policy. (Junior *et al.*, 2015). Perceived risk with uncertainty reduction is considered as an important factor for e-commerce acceptance. Success of an online purchasing decision requires a powerful interaction with website platforms and constant usage of internet technologies (Pavlov, 2003). Today's economic module focusses on online platforms, relying on strict competition law enforcement. It seems to be providing free products over a time, concentrating on the two-sided market theory or freemium models. Platforms, on one side, is a profit provider and on the other side, is a loss receiver or may be neutral mostly. Advertisers pay the exact prices (Bostoen, 2019).

II. E-COMMERCE

E-Commerce and consumers purchase intention are interlined. Purchase intention is defined as the willingness to purchase and it depends on the marketing strategy and process. Marketing process constitutes pre-purchase, purchase and post-purchase (Bhakar *et al.*, 2019). For a well-effective e-commerce strategy, easy to access website and app must be lineated and it should satisfy customer utilitarian needs (Bilgihan *et al.*, 2016). Year wise e-commerce sales in India and E-commerce and digital shopper metrics are charted in Table I and II respectively. Various factors that influence the online purchasing intention and theory behind online shopping is reviewed in this paper.

Table- II: E-commerce and digital shopper metrics

Retail e-commerce sales	\$32.70 billion	Reference: eMarketer, 2018
Retail e-commerce growth	31%	
Total retail e-commerce	2.9%	
Digital shoppers	25.3%	

III. CONSUMER ONLINE PURCHASING PROCESS

The relationship between consumers and web retailers in relation to the online transaction is regarded as electronic commerce acceptance. Online transactions depict the live interacting environment, involving many activities. The activities include online searching, collecting information, comparing the product and their prices, adding the consumers own details for communication and contact, explaining the preferred product, including the product and service oriented feedback, intentional collection of details through cookies, data mining tools and log-data, accessing credit card information, purchasing and payment option (Pavlou, 2003). Fig 1 represents the consumer online purchasing process.

IV. ONLINE PRIVACY CONCERN

Online privacy is a thought frequency that exists for all online consumers. It is a worldwide discussing problem (Gerber *et*

al., 2018). Usage of internet can't be skipped at any cost, on the other hand, the privacy issues costs a lot in day today life. Information retrieval is advantageous during purchasing but it restricts the consumers' autonomy (Sanchez and Viejo, 2017). Misusing the personal information such as tracking, discrimination, identity theft, phishing and manipulation will force a negative thought over the online purchasing (Choi *et al.*, 2018). Protecting consumer's privacy is a serious concern for retailers. Privacy concern influences the reputation of company, retention of consumer, driving sales and behaviour of a consumer. Privacy concern varies based on various factors and are listed in Table III.

- III: Parameters studied for online privacy concern (Anic *et al.*, 2019)

Online privacy concern	
Gender	Women cares more about the online privacy
Age	Old age people requires more privacy
Privacy awareness	It is directly proportional to online privacy concern
Previous online experience	Online privacy concern is more for people with less previous online experience
Desire for information control	Individuals with desire for controlling information are at high privacy concern
Online privacy regulation by government	It has a negative effect on privacy concern
Fabricating personal information	Personal information is fabricated due to online privacy concern
Withhold personal information	Withholding personal information occurs due to online privacy concern
Sharing private information online	Sharing private information online is blockaded by online privacy concern
Attitude	Negative relation between attitude and online privacy concern
Online purchases	Online purchases is retarded by online privacy concern

V. FACTORS INFLUENCING THE ONLINE PURCHASE DECISION ON GREEN PRODUCTS

A consumer who is intended to purchase online green product goods will consider many factors to be analysed and it is depicted in Fig 2.



A. Environmental factors

i. Sustainability

The sustainability factor is an inevitable consumer requirement that enhances the quality of green products. All types of business are enforced with sustainable practices for fitting into the current trends of demanding population (Borin *et al.*, 2013).

With sustainable business process, the conservation of environment is possible, surpassing the negative impacts in environment. Eco-friendly materials such as hemp, linen, Tencel and organic cotton is used as an alternative for product development by fashion retailers like Eileen Fisher, Levi Strauss, American apparel, H&M and Gap (Kang and Kim 2017).

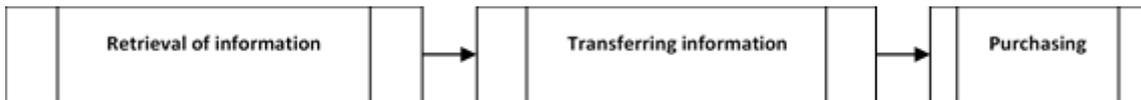


Fig. 1. Process of online purchase by consumer

B. Social media usage factors

i. Blogs

Blogs allow the consumers in acquisition of new lifestyles and habits. Bloggers are the preferred choice for the retailers for green product expansion. Examples of blogs that spreads green consciousness includes Inhabitat, Green Thinkers and Alternative consumer (Biswas and Roy, 2014). The choice of green is related to the blog contents exhibiting the wide range of products and their oriented services (Biswas, 2016).

ii. Advertisements

Social media, specifically advertisements plays a vital role in maintaining customer relationship management for many types of green brands. (Leggett 2016). Facebook, Google +, YouTube- all source of Internet facilities pave a good platform to outstretch the green buyers. Green buyers rely on social media in comparison with the non-green buyers. (Nyilasy and Gangadharbatla 2016). Maintaining and keeping the green consumers active is an important requisite for all online retailers. Marketer dominated statistics must be inculcated in social media by the online retailers. Advertisements on social media implicates the availability of novel brands, products and services. Also, comparison is easily possible with the advertisements by retailers (Biswas, 2016). For keeping the consumers live in green consciousness, it is important to consider three tactics- perceived marketer dominated information quality, perceived interaction quality and perceived service content quality (Kang and Kim, 2017). Tamizh Jyothi and Samudhra Rajkumar (2005) concluded in their study on the effectiveness of celebrity advertisements, wherein they have considered product categories and brands are the essential factors that influence the effectiveness of celebrity advertisements. Kailasam Tamizhjyothi and Samudhra Rajakumar (2011) found that attitude towards celebrity and attitude towards brands have a significant influence on the purchase of multiple celebrity-endorsed products or brands. The profession of the celebrity is also considered while predicting the effectiveness of multiple celebrity endorsements.

iv. Peer opinion and Comments/ Reference effect

Retrieval Number: C5082098319/2019@BEIESP
DOI:10.35940/ijrte.C5082.098319
Journal Website: www.ijrte.org

iii. Product updates, Reviews and Information

Updates regarding product quality, reviewing the products quality and nature and dissipating such types of information using the social media is an accepted factor for green choice behaviour. Additionally, the working nature of the product, its advantages, disadvantages and its functionality information can be uploaded in social media like YouTube (Biswas, 2016).

Usage experience about a product is expressed through online platforms and new customer utilize that review for further purchase intention influencing the consumer purchasing behaviour. The provided reference information act as a key proof for evaluating and taking decisions. Reference effect can minimize perceived risk and experienced uncertainty. Hence, reference effect is significant for invoking green purchase decisions (Zhao *et al.*, 2017). IBM’s Innovation Jam is an online social community site that favours the customers to share their valuable information and experience about the products obtained and its one type of marketing strategy for allowing the consumers purchase online decision to be exhibited (Biswas, 2016).

v. User-friendly sites

Buyers require user-friendly sites so that no assistance is necessary, automatically easing the usage of social website (Lim *et al.*, 2008).

vi. Site usage

The websites that gained attention will get repeated usage favouring the increased use of products with companies inducing the way to share the contents on experiences (Wang *et al.*, 2008).

vii. Reflection from product usage

If the consumers are contented with the products, then the happiness can be shared in social media, thereby showcasing the value of that product. In this regard, happiness is considered as a predictor (Heijden, 2004).

C. Website Related Factors

i. Online Atmosphere/ Website Characteristics

Online atmosphere directly influences the online shopping behaviour of the consumers by providing the virtual environment, thereby attracting the consumers to buy the products (Carroll, 2013). The website characteristics include website information abundance, website information protection, website quality and website reputation (Zhao *et al.*, 2017).



Studies related to Chinas Double 11 online shopping festival indicates a negative co-relation between online atmosphere and various parameters such as subjective norm, behavioural control, purchase intention and attitude (Yang *et al.*, 2018).

ii. Online Shopping Frequency

It is an indicator for long term transactions and the experience gained from online reflects the highest likelihood buying option (Pavlou, 2003).

iii. Online Privacy

Consumers expect privacy while undertaking online.

Thought of privacy concern may infect the purchase intention indirectly. Privacy awareness and demographics have no direct role over privacy concern (Anic *et al.*, 2019).

iv. Online Reviews

Online reviews are the trustable form of advertisement mode. The independent variables- perceived behavioural control, attitude, taking vengeance, subjective norms, ego involvement, helping the restaurant are the factors that influence the intention of writing online reviews about a green product. Consumers believe the recommendations and suggestions provided in the online review platform. (Dixit *et al.*, 2017).

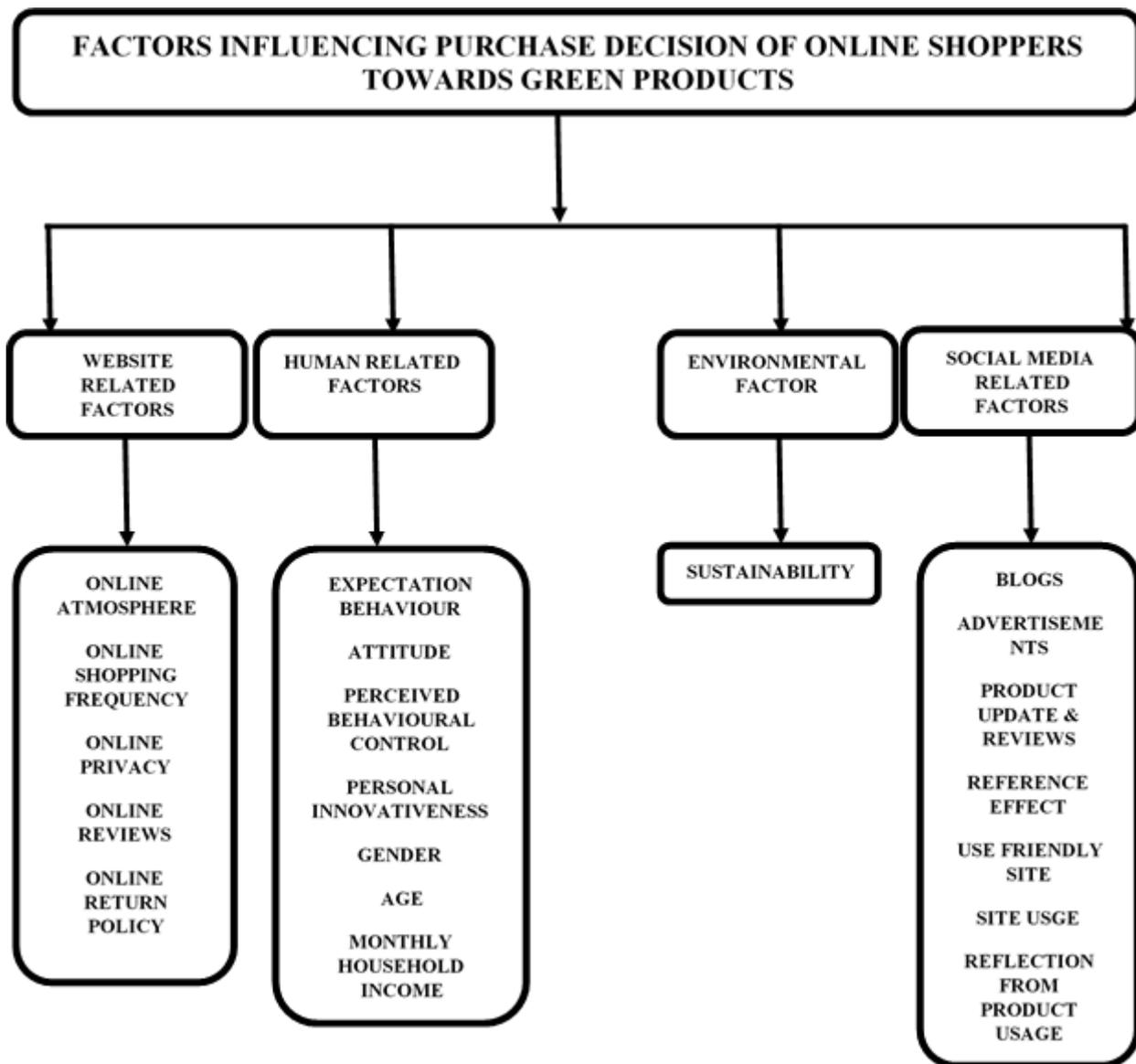


Fig. 2. Flowchart representing the factors influencing purchase decision of online shoppers toward green products

v. Online Return Policy

Lenient return policy directly influences the purchase intention. Consumers expect the products to be returned if it is not up to the expected level. Online return policy reflects the future online purchase inclination and also minimizes the risk of online purchases (Oghazi *et al.*, 2018). The relationship

between online return policy, consumer trust and purchase intention is shown in Fig 3.

D. Human Related Factors

Green product purchase intention can be enhanced by expectation behaviour, attitude of the consumers, perceived

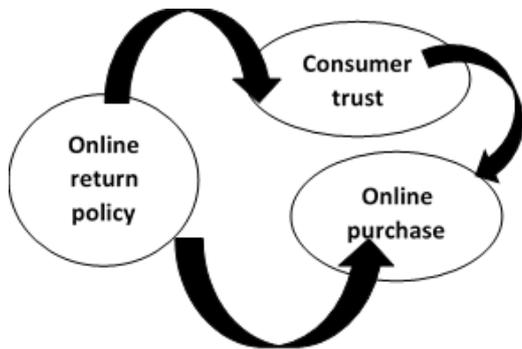


Fig. 3. Relationship between online return policy, consumer trust and purchase intention

behavioural control, perceived ability of the consumers (Choi and Johnson, 2019), personal innovativeness (Thakur and Srivastava, 2014), experienced satisfaction due to product usage (Pavlou, 2003), gender, age and monthly household income.

VI. PROPOSED THEORIES FOR PURCHASE INTENTION OF ONLINE GREEN PRODUCTS

A. Theory of planned behavior

This theory is proposed by Ajzen (Ajzen 1985), focussing the sustainable consumption during an online shopping festival in China. The environmental related analysis can be predicted using the planned behaviour model (Rezai *et al.*, 2012). The relationship between sustainable consumption and the future consumption behaviour is strongly reflected in this theory. Attitude, trust and behaviour are the major predictors in detecting the human intention. Environmental concern and attitude are efficiently co-related (Yadav and Pathak, 2016). Environmentally conscious consumers demand a higher subjective norm (Paul *et al.*, 2016; Moser 2015) with behavioural controlling capacity and green brand purchasing intention (Yang *et al.*, 2018). Subjective norms include perceived ability of the consumers and the expectations. Fig. 1 depicts the required constructs for well-oriented purchase intention. Table IV lists out the proposed theories for purchase intention of online green products.

B. Extended theory of planned behaviour

According to extended planned behaviour theory, new construct known as atmosphere is also considered (Jang *et al.*, 2015; Maichum *et al.*, 2016). For a sustainable consumption, atmosphere- offline stores or online stores are taken into effect. Lighting, scent, color, temperature, cleanliness together constitute the offline store atmosphere and it reflects the emotion, behaviour and satisfaction of the buyers. Subsequently, the online atmospherics include the web page environmental designs that forces the consumer to view the site. The whole online set up vehemently depicts the mood and emotion of a consumer (Wu *et al.*, 2014; Yang *et al.*, 2018).

C. Theory of technology acceptance model

Ease of use and perceived usefulness are the constructs considered in technology acceptance model. These variables are the driving force for the acceptance of E-commerce. With the availability of technology, perceived usefulness tags the purchase intention, simultaneously in inquiry and purchase

process, whereas perceived ease of use tags purchase intention only for website inquiries (Pavlou, 2003).

D. Theory of reasoned action

Trust causes optimistic view about an online retailer and lack of trust perceives the negative attitude towards purchase intention. So, theory of reasoning action predicts trustworthiness as a variable in analysing the favourable purchase intention. Trust minimizes the behavioural uncertainty (Fishbein and Ajzen, 1975).

E. Value based adoption model

In this model, purchase intention through online is analysed by the consumers idea of perceived value. This model induces the usage of mobile-internet and it is used as a fundamental predictor of purchase intention. It is also conceived as a way to determine the frequency of usage of mobile-internet by the customers (Kim *et al.*, 2007).

F. Unified theory of acceptance and use of technology

This theory is based on the three constructs- Effort expectancy, Performance expectancy and social influence that links the purchase intention of consumers in numerous ways. The extent to which a consumer believes that the new system is helpful in providing marks in job performance is known as performance expectancy and effort expectancy predicts the extent to which the product's ease-of use is related to the consumer. Social influence favours other new consumers to have an idea about the system and this part is very important for a purchase intention (Venkatesh *et al.*, 2003).

G. Multiple mediator model

This method is proposed by Hayes (Hayes, 2013), which is applied in analysing the mediating effects of perceived values and perceived risks among the reference groups (Zhao *et al.*, 2017).

H. Social exchange theory

Consumers' attitudes and online interaction is proportional to each other. Through online interaction, judgement about a product can be determined and the judgement differs in terms of attitudes. Significant impact is felt on green value perception by the mode of interaction between the old and new customers. In addition to this, social value and functional value too has significant effect on online purchase intention (Xia *et al.*, 2019).

I. Aisas model

It refers to attention, interest, search, action and sharing. Perceived value of a consumer is the token variable for this model. The relation between consumers purchasing behaviour and the internet network environment is dynamically reflected in the AISAS theory (Xia *et al.*, 2018).

VII. OPTIMIZATION STRATEGIES FOR PURCHASE DECISION TOWARDS ONLINE GREEN PRODUCTS

The variables to be considered for online purchase intention and the optimization strategies for purchase decision towards online green products is depicted in Fig 4 and 5 respectively.

Table- IV: Proposed theories for purchase intention of online green products

Theory	Constructs	Reference
Theory of planned behaviour	Attitude Subjective norm Perceived behavioural control	Ajzen, 1985
Extended theory of planned behaviour	Attitude Subjective norm Perceived behavioural control Atmosphere	Yang <i>et al.</i> , 2018
Theory of technology acceptance model	Perceived usefulness Ease of use	Pavlou, 2003
Theory of reasoned action	Salient beliefs Attitudes	Fishbein and Ajzen, 1975
Value based adoption model	Perceived value Mobile Internet	Kim <i>et al.</i> , 2007
Multiple mediator model	Perceived value perceived risk	Hayes, 2013
Unified theory of acceptance and use of technology	Effort expectancy Performance expectancy Social Influence	Venkatesh <i>et al.</i> , 2003
Social exchange theory	Attitude Online interaction	Xia <i>et al.</i> , 2019
Aisas model	Perceived value	Xia <i>et al.</i> , 2018

A. Environmental motivations and Hedonic motivations
Environmental motivations and Hedonic motivations are the two strategies that can be used to optimize the green products purchase decision of consumers (Choi and Johnson, 2019).

i. Environmental effectiveness

Rarely, attitude is a predictor for environmental behaviour. Contrast to this, situation or issue specific motivations are apt detectors of specific environmental behaviours (Ajzen and Fishbein, 1980). One of the issue specific motivation is perceived environmental effectiveness (Ellen *et al.*, 1991). It directly links the purchasing decision with the core environmental issues and it merges the consumer and product effectiveness. Consumer effectiveness is indicated by the range of individuals thinking capacity in making a decision with respect to environmental problems (Straughan and Roberts, 1999). Product effectiveness is shown by the consumer satisfaction.

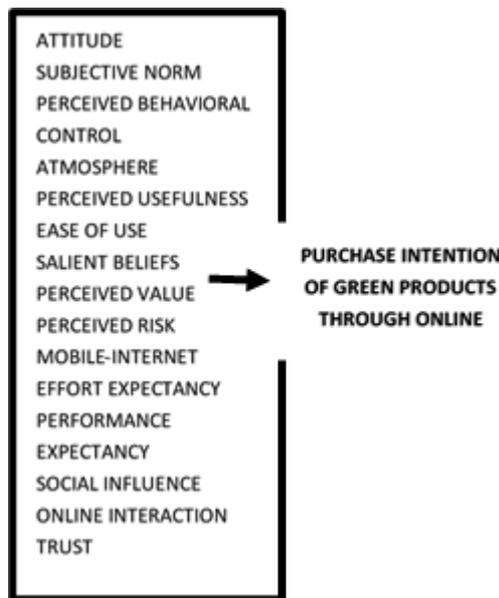


Fig. 4. Variables to be considered for an effective purchase intention of online green products

ii. Environmental concern

Consumers concern for environment is a critical parameter for purchase decision of green products. It is the correct predictor for a green product purchasing behaviour (Maichum *et al.*, 2016). Environmental concern along with specific variables related to the green product to be purchased must be considered for efficient behaviour prediction (Choi and Johnson, 2019).

iii. Environmental awareness

Environmental consciousness is enhanced more among the users through the platform- social media to buy the green products. Knowledge about the environment has some effect on the purchase decision. In a study, it is found that environmental knowledge didn't show any change in green purchase behaviours (Ahamad and Ariffin, 2018).

iv. Adventurous spirit

Adventurous spirit refers to the new and effective challenges in green purchasing. Consumer with increased adventurous spirit automatically have high hedonic values and it is a good predictor for green purchase intention (Fraz and Martinez, 2006).

v. Novelty seeking

Novelty seeking connects the adventurous spirit and purchase intention by adding a new variable-novelty. It is one of the situation specific variable with high influence in purchase behaviour (Afshar Jahanshahi and Jia, 2018). Consumers with more creative choices moved to buy high fashionable things (Lang *et al.*, 2016).

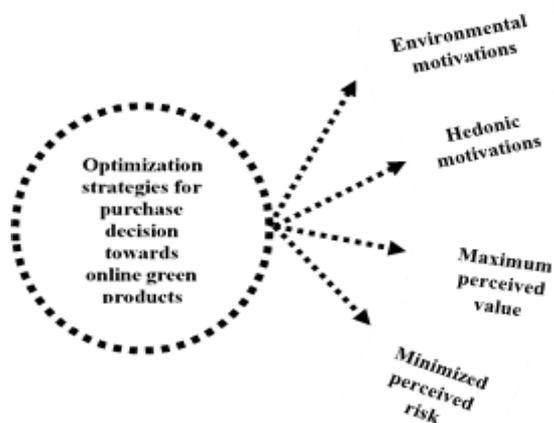


Fig. 5. Different optimization strategies for purchase decision towards online green products

B. Maximizing perceived value and minimizing perceived risk

Perceived value of a consumer can be maximized by improving the quality of green products and servicing process. Knowing the psychology of a consumer is essential for increasing the perceived value. Consumer surveys, consumer’s voice on price tags, instituting membership forums, consciousness about the offline/online prices and views exchanging policy through social media such as WeChat, micro blog and Twitter must be done by the retailers for efficient green product purchase intention. Perceived risk can be minimized by adding additional advantage of paying money by the consumers only after analysing the product, assessed by door delivery policy (Zhao *et al.*, 2017).

VIII. MAJOR RISKS IN ONLINE GREEN MARKETING STRATEGIES

A. Perceived risk

The risk is related to the misinterpretation of a product that is experienced through online. If the product received is not promising, risk arises. Perceived risk may cause consumer cynicism, leading to negative feedback in purchase intention, automatically reducing the selling strategy of green products. Perceived risk is classified in the category of uncertainty that relates the damage/loss with the purchase action, subjected to consumer estimation (Zhao *et al.*, 2017). The uncertainty may be of two types: behavioural uncertainty and environmental uncertainty. Behavioural uncertainty causes four types of risks as follows:-

- Privacy risk- The risk of quenching the consumer’s private information or to be mentioned as illegal disclosure.
- Economic risk- Financially experienced loss
- Personal risk- non-servicing and unsafe product delivery
- Performance risk- irregular monitoring by the retailers

Among the above listed risks, economic risks and privacy risks are included in environmental uncertainty (Pavlou, 2003).

IX. CONCLUSION

Purchase decision of online shoppers towards green brands are favoured by considerable factors- Environmental factors, social media usage factors, human related factors and online platform related factors that are important for an online retailer to consider while selling the green products, favouring the purchase intention. A lot of theories have been put forward for enhancing the online purchase intention of green products by inducing new constructs. Research reports on purchase decision of online products shows that online processing system is effective in most of the aspects. Specifically, online interaction between the consumers and enterprises have direct impact on purchase decision making. Perceived values occupies a viable position in determining the decision process. Managing customer relationship through an internet network environment is vital. Acknowledging the disadvantages is must for directing the future research to be undertaken as a measure to increase the online purchasing behaviour. Possible other variables such as attitude, behavioural experience between different types of customers, cultural characteristics, ethnic characteristics and trust should be considered for studying the purchase intention of green products. Additional studies can be focussed towards the cross cultural effects over e-commerce.

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