# Factors Leading to Risk Perception associated with Used-product Consumption Practices in Bangladesh.

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ABSTRACT:- Second-hand goods in both developing and advanced countries have recently gained significant attention. Participation in second-hand product consumption has been widely observed in Bangladesh as well. Consumer's perceptions towards buying second-hand products and risk associated with such type of practices among local Bangladeshi consumer are unclear. This quantitative survey research approach found that consumer's cognitive biases and disposable income have a significant positive relationship with their risk perceptions towards buying second-hand products. Findings also show that there is no association between emergency purchase situation and second-hand product purchase. The results of this study suggest that there is a case for second-hand product sellers /retailers to question their expectations about consumers buying behaviour for second-hand products. Findings of this study suggest that for better understanding of the consumers risk perception emphasis should be placed on factors such as disposable income and cognitive biases for successful expansion of business firms in a sector that is economically viable in Bangladesh.

**KEYWORDS** – Used product purchase intention, Used product purchase risks, Bangladesh, Trading of used products

#### I. INTRODUCTION

Defined as goods which have been previously owned and used, whose price is lower than new products (Guiot and Roux, 2010), the demand and consumption for second-hand goods have a long historic evolution dating back to the gilded era. In the past, only the rich were able to afford the limited production of craftsman. When not required these were passed them down (i.e. their used furniture and personal belongings) to the poorer and economically disadvantaged sections of people. This trend declined following the industrialisation era when mass production techniques made duplication easy, and reduction in production costs made new products less costly and more commonly available. A revival in the interest and consumption of used and second-hand products was seen since the financial crisis of 2008. A number of factors have driven this recent appeal. Scholars such as Guiot and Roux (2010), Moeller and Wittkowski (2010), Gretzel et al. (2006), and Edbring et al. (2016) have mentioned that fundamental motivational forces for the preference of second-hand products have been greater awareness for ecological sustainability and innovations in digital communication. Peer to peer online platforms and markets, frugal lifestyle and the shift in consumer psychology in terms of enjoying products for temporary usage value over looking at them as a possession that is valued as a store of wealth.

Advocates for sustainable consumption practices argue that with the expansion of the internet and need for more excellent environmental protection, there will be a progressive rise in participation in the second-hand market. This trend for second-hand is supported by findings that estimate the global sales of second-hand apparel, shoes and clothing accessories are expected to increase from 24 billion USD in 2018 to 51 billion USD in 2023 (Hristova, 2019). Similarly, the global market of second-hand cars was estimated to have reached 10.2 billion units (Hristova, 2019). In 2017, the global market of pre-owned or used furniture was valued at USD 29.3 billion and predicted to keep growing with an annual rate of 6.4% until 2025. (Hristova, 2019). The tendency displayed in the resale market of mobile phones on a global scale has reached 19 billion USD in 2017for with a prospect of expanding to 44 billion in 2026 (Hristova, 2019).

Despite its growing appeal, very little is known about consumer participation in the second-hand market in Bangladesh. The authors of this study aim to investigate consumer participation through the lens of perceived risk. The concept of perceived risk is significant because it enables the researchers to analyse the factors which act as obstacles to participation. Although variable "risk perception" is widely applied to several product categories, this study differs from past studies, since it analyses the significance of three concepts (emergency purchasing situation (EPS), disposable income (DI) and cognitive bias (CB).

Trading of second-hand products are widely observed in electronics and furniture category in Bangladesh, and this products category involves risk for both the seller and buyer. However, despite these risks, participation in second-hand consumption continues to grow. It appears that consumers are willing to accept these risks. The goal of this quantitative paper is to analyse the significance of factors that may influence their judgements of the risks by asking three questions such as when the consumers need to go for buying second-

hand products?; how the consumers manage money for second-hand products and what kind of risk they perceived while considering second-hand products for their daily use?

#### II. REVIEW OF LITERATURE

In order to answer the research question posited above, this study has relied on three concepts as discussed below. These are (i) the concept of emergency purchasing situation, (ii) the concept of disposable income, and (iii) the concept of cognitive bias. This researcher assumes that these three concepts may provide a new lens into how risk perception is formulated by consumers when shopping for second-hand products.

## **Emergency purchasing situation**

According to Samson and Voyer (2014) the concept of emergency purchasing situations (EPS) refers to a distinct buying context, in which two conditions apply;(i) an unanticipated or unexpected event triggers the purchase decision; (ii) The purchase has to be made urgently within a short period;

According to the authors, EPS helps to explain specific situations where the purchase decision arises because of certain factors not typically anticipated. Unlike typical purchase decision where the salient need arises from promotional and marketing activity, EPS concept places focus on emergencies. These emergencies can then lead to situations which may endanger lives, and therefore there is a need to rectify the problem by immediate on the spot purchase. EPS is also distinct in that the decision making does not follow typical information and evaluation search.

The concept of EPS is considered to be relevant for the study of risk perception towards second-hand appliances in the Bangladesh context. For instance, the country has a shortfall in power generation capacity (The Newage, 11 March 2020) requiring the national electrical power company to redistribute power between different economic and regional sectors. These disruptions in electrical supply cause voltage spikes that have a damaging effect on electrical circuits of household electrical equipment. The damage to electrical appliances leads to product failure that requires product replacement. For household is the replacement of essential appliances (e.g. air-conditioned and water pump) is costly, and often require to be repurchased urgently. The cost-effective solution to this recurring product replacement problem for the consumer is for him/her to rely on the second-hand market place.

This study assumes that the poor quality of electrical supply in Bangladesh exposes consumers to situations that require them to experience emergency purchasing situation (EPS). However, goods (i.e. electrical appliances) which fail unexpectedly require the consumer to make unanticipated urgent replacement purchase decisions. Furthermore, it is assumed that the "urgency" limits the consumer ability to search and evaluate all information required for making an optimal evaluation of risk factors towards the second-hand purchase decision. Therefore, it can be hypothesised that the consumer's' emergency purchasing situation has significant relationship with risk perception  $(H_1)$ .

## **Disposable Income**

According to Barber (1949), the concept of disposable income is defined as income which is at the disposal of the individual with which he/she can decide to consume or to save after deducting income taxes. The concept of disposable income has been used as a key indicator, and an important metric by economists to gauge the level of money individuals have in order to make predictions about the ability of consumers to make purchases (Jenkins et al., 2012). For this research, it is implied that the individual's disposal income finances consumption of products, and therefore the amount of disposable income available has a direct influence on the consumer's shopping behaviour. Research indicates that the level of disposable income available to the consumer depends on a number of socio-economic factors and that there are differences in income level between industrialised and newly developing countries (Michel, 1991). These studies also suggest that fluctuations in the national economy are likely to affect the income and consumption patterns (Lintonen et al., 2007).

The academic literature on economic cycles suggests that the propensity to shop for lower-cost products, such as second-hand, is higher at times of economic crisis. Studies on consumption habits in recessions has found that there exists a link between disposable income and a shift in consumption pattern. Scholars, (Ramadhan and Naseeb, 2010) states that decline in income during recessions alters behaviour and that it teaches consumers to learn to live without expensive products and that have an inclination to prefer switching to lower-priced alternatives. Valášková and Klieštik (2015), support this, suggests that during times of economic crisis when disposable income is reduced, the consumer confidence usually falls, driving them to seek out better offers so that the consumer can minimise expenditures. Studies by Gabbott (1991), Rucker et al. (1995), Roux and Guiot (2008), and Waight (2014) have found that there exists a link between financial status and participation in fleet markets, garage sales which sell second-hand products.

Similarly, research on second-hand consumption also shows that in economic crises the reduction in income levels leads to affordability problems which lead to a shift in consumer shopping patterns towards second-hand shopping (Stone et al., 1996, Williams and Paddock, 2003). The studies by Baden and Barber (2005) have found that second-hand products, such as clothing and automobiles, enjoy a high level of acceptance among consumers in lower-income countries. 25% of the population in Bangladesh live close to the poverty level, and only a fraction of the population have significant disposable income (Chowdhury and Hossain, 2018). Marketplaces for second-hand goods is economically beneficial for sections of the society who would otherwise not be able to afford expensive new products.

Behavioural studies in consumer psychology have also found that income level influences consumers attitude towards risk. Findings show mixed results on the relationship between income/wealth level and preference for risk-taking. While some studies show that individuals with higher education and higher wages have a higher appetite for risk takings (Bashir et al., 2013), other studies have found the opposite to be true also. Research on recessionary consumer behaviour has found that when faced with financial difficulties, consumers are often forced to re-evaluate their habits which involve changes in how they perceive benefits or value individual product choices (McKenzie and Schargrodsky, 2005, Hampson and McGoldrick, 2013, Bohlen et al., 2010).

For this study, it is assumed that a low level of disposable income prevalent among Bangladeshi consumers encourages them to search out lower-cost alternatives such as second-hand products. It is also assumed that low disposable creates a distortion in consumer's risk tolerance towards second-hand products. In other words, low income encourages the consumer to overrate the benefits (i.e. a lower purchase price of the second-hand product).

Therefore, it can be hypothesised that consumer's disposable income has a significant influence on risk perception towards the second-hand product  $(H_2)$ .

## **Cognitive Bias**

A cognitive bias refers to a mistake in reasoning (cognition) as a result of holding on to one's beliefs regardless of contrary information. According to (Haselton et al., 2015) humans often rely on short-cuts and rules of thumb to overcome limitations of the brain's processing capabilities, (i.e. when individuals are under time pressure or when decisions need to be made quickly). The human brain has evolved to rely on short-cut heuristics principles to simplify processing of mental judgements about things so that it can reduce complex tasks such as assessing probabilities and predicting values. However, reliance on these short cuts has its limitations. The cognitive biases occur when the brain makes a judgemental error because there is a malfunction in the short-cut's heuristics (Murata et al., 2015). For instance, when underlying "rules of thumb" does not fit or is not applicable for a specific context. Therefore, the prediction made does not turn out to be as per the individual's expectations. In a study by Simon et al. (2000), findings have suggested that risk perception may be influenced by cognitive biases, leading individuals to perceive either more risk or less risk. In other words, cognitive bias may lead to modification of risk attitude. This is also supported by (Simon et al., 2000), who suggests that cognitive biases can cause individuals to discount the negative outcomes associated with their decisions. Additionally, the literature on cognitive biases, has identified a number of different factors which can lead to biases. For the purposes of this research, several types of biases have been considered.

- <u>Biases on account of overconfidence</u>: Which describes how some individuals are too confident about their abilities which causes them to take higher risks (Merkle and Weber, 2011). In other words, when an individual is overconfident, then there is a tendency to overestimate one's judgment or performance in an activity. The overconfident can lead to overestimation in their ability, performance, level of control, or chance of success in making decisions.
- <u>Biases on account of affect heuristic</u>: Which describes how individuals sometimes make decisions based on emotions, such that their emotions colour their beliefs about the world. Accordingly, such emotions can also affect the way an individual perceives things to be more beneficial or more valuable thereby overestimating their expectations (Kralik et al., 2012)
- <u>Biases on account of bandwagon effect</u>: Which describes how individuals do something only because others are doing it (Nadeau et al., 1993). In other words, this effect is a phenomenon whereby the rate of uptake of beliefs, ideas, increases the more that others have already adopted them.
- <u>Judgemental errors on account of confirmation bias</u>: Which describes the tendency to listen to information that confirms the individuals existing perceptions (Klayman, 1995). For example,

when the individual selectively relies on information that supports his or her belief, while ignoring new information that is not supportive of his/her beliefs.

• <u>Biases on account of hallow effect</u>: Which describes how individuals take one positive attribute of someone (or thing) and associate it with everything else about that person or thing (Leuthesser et al., 1995). When an individual relies on only one aspect or trait, such hallo effect bias can lead to a distortion in their perception. For example, hallo effect can occur when a customer/consumer has a bias (or preference) towards a particular product because of favourable experiences with other products originating from the same country (Diamantopoulos et al., 2011).

For this research, it is assumed that cognitive biases play an essential role in the determination of risk perception towards second-hand goods. This researcher hypothesises that in the context of Bangladesh, these biases can lead to the misconception that leads the consumer to overestimate the benefits and underestimate the risks. In other word, biases such as overconfidence, emotional effect, bandwagon effect may cause the consumer wrongly over to evaluate the perceived value of the second-hand product, and under evaluate previously used products in terms of the level of product risk. For instance,

- (i) Over-confidence effect bias about second-hand products in terms of bargaining and haggling skill with the seller, as well as overconfidence that that seller is transparent and providing accurate data on product performance history.
- (ii) Emotional effect bias that arises because of financial stress (due to low income) which leads to an overestimation of the perceived value of second-hand products because they are priced lower and less costly than a similar new product.
- (iii) Bandwagon effect bias, because the general public considers second-hand products as cost effect and beneficial way to save money.
- (iv) Confirmation effect bias that second-hand product brands from European and Japanese manufacturer are more reliable than brands that originate from China.
- (v) Hallo effect bias in terms of a distortion of perception associated with small product details/attributes of the second-hand product; such as assuming that used products which look well maintained, or sold with original packaging are assessed as having superior performance quality in comparison to those that look less fresh or do not have original packaging.

Therefore, a hypothesis could be developed that consumer's cognitive biases have an influence on their risk perception regarding the second-hand product (H<sub>3</sub>).

## Risk perception of second-hand products

Perceived risk has been defined as the uncertainty faced by the consumer which can lead to him/her being exposed to negative consequences or loss (Hristova, 2019, Täuscher and Kietzmann, 2017). Although the factors considered as risk is a subjective evaluation and therefore can vary from person to person (Sjöberg, 1999), there is consensus among scholars that every purchase decision entails risk (Yeung et al., 2010, Mitchell, 1999, Bauer, 1960). In the context of second-hand product shopping the risk dimension is particularly critical. The second-hand product is distinctively different from new products since it is a product that has been previously owned and therefore involves a high level of ambiguity making the buyer's purchase decision highly complex. The ambiguity related to second-hand products include:

- (i) Lack of complete information about previous owner's usage history (Löfstedt and Renn, 1997)
- (ii) No manufacturers product replacement & service warranty (Frenken et al., 2015)
- (iii) Authenticity of the seller of used product and that the seller is transparent in providing accurate information about the used product. (Eckhardt and Bardhi, 2015)

In the context of Bangladesh which is a developing country, an important concern is that the market for second-hand products lacks regulatory oversight and therefore sellers are able to take advantage by engaging in trading practices that may be disadvantageous for buyers. The lack of enforceable laws concerning trading practices implies that it is often beneficial for sellers to withhold or hide complete and accurate product information in order to maximise their profits. This lack of transparency is a feature of second-hand goods that compounds the risk the consumer faces when shopping for second-and products.

### **Conceptual Framework**

For this study, the researchers have applied the factors emergency purchasing situation (EPS), disposable income (DI) and cognitive bias (CB) as antecedent variables in order to potentially uncover new

insights into how the Bangladeshi second-hand shopper makes his/her risk judgements. The model is focused on analysing the relationship between the consumer's risk perception and the factors related to financial weakness (e.g. disposable income (DI), unpredictable environment, (e.g. emergency purchasing situation (EPS)), and psychological handicap (e.g. cognitive bias (CB)). Additionally, it is assumed that these three factors (EPS, DI, and CB) represent concepts that may uncover new aspects of risk attitude i in the mind of the consumer in Bangladesh.

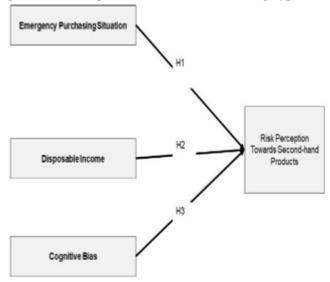


Figure 2.1: Conceptual framework and working hypotheses

## III. METHODS AND MATERIALS

The quantitative assessment of an individual's risk perception (i.e. how they evaluate uncertainty and loss) is difficult as there is no guarantee that people are aware of all types of risk, or that they will act out or behave the way they say they will (Weber et al., 2002),Rather than ask specific question, scholars (Botterill and Mazur, 2004)recommended that respondents find it easier to express risk attitude when asked to rank their risk tolerance.

Accordingly, this study has adopted a quasi-experimental survey using close ended questionnaire. The purpose of using descriptive survey was to collect detail information that describes present phenomenon. To assess how individual's perception of risk towards second-hand products is impacted by each of the independent variables, the study asked eight closed-ended questions adapted from previous research by (Botterill and Mazur, 2004). The survey was confined to Dhaka and Chittagong districts of Bangladesh. The results were further analysed using descriptive statistical analysis method to find out influence of the factors on dependent variable (risks perception). A population refers to the aggregate of all cases that conform to some designated set of specifications. The target population was shopkeepers of used products especially furniture and electronics shops and passer by buyers.

The survey instruments were kept as short as possible since few samples were the buyers came down to purchase old/used furniture/electronics items who are mainly short time visitor in the shop. The research instrument was translated into Bengali language being the mother tong of the respondents. However, two expert's opinion were solicited from marketing expertise scholars and they gave few corrections before pilot test and after the pilot test. A pilot test was necessary since the original instrument was converted into another language. It is difficult to determine the exact number of population as well as sample size, however, the researchers found that in an average a shop is visited by 120 to 140 buyers in daily. So, the approximate number of populations would be 3250 to 3500. There are 15 shops (furniture and electronics used products retailers) at Dhaka city and 12 at Chittagong. A total of 98 respondents were chosen, and they were provided with the questionnaire. Their answers were collected as primary data. It took 27 days to collect data from 98 respondents. Afterwards, these data were analysed with the help of computer aided statistical software (IBM SPSS Version 23 and SmartPLS Version 3.2.9) to get an overall idea on the research objective.

#### IV. RESULT AND DISCUSSION

A summary of demographic profile of the respondents is presented in table 1. Male respondents are 96.9% while female participants are only 3.1%. Middle aged people mostly visit the second-hand shops. Second-hands shops are preferable to low income and middle-income participants while high income (those with more than 50K+ income) people seldomly visit.

The construct's validity and reliability were measured using Smart PLS version 3.0. This second-generation statistical analysis software provided the true picture of latent construct's validity and reliability (see Table 2). From Table 2 the researchers could confirm that the research instrument is valid and reliable where Cronbach Alphas are above 0.708 (Nunnally, 1975), Composite reliability indicators are below 0.9 (except Disposable Income construct) and Average Variance Extracts are above .5 (Hair, Risher, Sarstedt, & Ringle, 2018). As far as multicollinearity is concern this study is free from such issues since the Variance Inflation Factors (VIFs) are <5.

Table 1. Demographic profile of the respondents

Frequency and percentage of demographic variables						
Variable	Item	Frequency	Percentage			
Gender	male	95	96.9			
	female	3	3.1			
Age	18-30	12	12.24			
	31-40	36	36.73			
	41-50	27	27.55			
	50+	23	23.46			
Income	Low (25k and below)	51	52			
	Medium (25k-49k)	41	41.8			
	High ((50k+)	6	6.1			
Marital status	Married	33	33.7			
	Unmarried	64	65.3			
	Divorced	1	1			
Visit Frequency	Yearly	22	22.4			
	Half yearly	25	25.5			
	Quarterly	30	30.6			
	Weekly	21	21.4			

Source: Researcher's primary data analysis

Table 2: Construct validity and reliability (SmartPLS Algorithm Report)

Construct	Cronbach Alpha	Composite Reliability	AVE	$\mathbb{R}^2$	VIF
Emergency Purchasing Situation (EPS)	0.802	0.825	0.807	-	2.753
Disposable Income (DI)	0.765	0.914	0.845		2.654
Cognitive Bias	0.815	0.887	0.857	-	2.095
Risk Perception towards 2 <sup>nd</sup> Hand Product (RP)	0.837	0.897	0.750	0.871	1.372

Source: Researcher's primary data analysis

In Table 2,  $R^2$  denotes the effects of all the exogenous latent variables on an endogenous construct (Hair et. al, 2017). The combined effect of the independent variables on the dependent variable described a value of 0.871 meaning that the exogenous latent constructs explain 87.1% of the variance on Consumers Risk Perception towards second-hand products.

Table 3: PLS Bootstrapping report of the constructs path coefficients (hypotheses testing)

Paths	T-values P-value		Supported	
CB - > RP	13.483	0.000	Yes	
DI - > RP	8.272	0.000	Yes	
EPS - > RP	1.435	0.139	No	

Source: Researcher's primary data analysis

The study has three simple hypotheses to test. Although it was assumed that the consumer's' emergency purchasing situation has significant relationship with risk perception towards second-hand product purchase; statistical analysis revealed that the hypothesis is not supported since t value is 1.435 and P is >0.01. For the remaining two hypothesis the results indicate that there exists significant relationship with risk perception statistical analysis revealed that both hypotheses linked to variables Disposable income and Cognitive bias are supported.

- 1. The explanation for non-significance of EPS can be attributed to the following rationale.
- i) Although the socio-economic environment in Bangladesh is highly volatile on account of unexpected events, (on account political unrest, unethical business practices, non-compliance with regulations), the consumer has adapted and is culturally accustomed to unanticipated shocks and therefore this factor (EPS) does not interfere with their risk perception towards second-hand. Rather, the consumer may have become habituated to considering second-hand as an acceptable alternative. In other words, events which lead to an emergency purchasing situation, does not increase or decrease risk perception, i.e. the consumer can be said to have a high-risk tolerance to EPS.
- ii) Another explanation for non-significance of EPS may be linked to cultural/religious factors. According to (Kern, 2003), different cultures and religious traditions have different orientations about the concept of time, and this causes a different sense of urgency. For instance, (Morphitou and Gibbs, 2008) suggests that cultural /religious traditions which have a deeper reliance on divine intervention often have a propensity to explain unexpected events in terms of divine powers, and therefore have little self-interest to take responsibility to resolve or act urgently. In other words, the concept of unexpected emergency is perceived with less urgency on account of cultural/religious factors, and therefore has little impact (i.e. does not lead to variations) in relation to risk perception.
- 2. The explanation for significant relationship between Risk perception and Cognitive bias in the can be attributed to several biases. irstly, in the context of Bangladesh, lack of information transparency between sellers and buyers is , the quality of information, as well limited accessibility to search for information, means that Bangladeshi consumer has a high propensity to rely on word of mouth of others, which can lead to bias referred to as Bandwagon bias effect. For instance, the high level of product uncertainty in used product markets encourages the consumers to rely on what others recommend in making product evaluations. This means that the consumer's purchase decisions are based on following behaviour of what others are doing. The findings that show positive link between cognitive bias and risk perception implies that such biases are active and distorts perception of risk associated with second-hand products.
- 3. The significant link between disposable income and risk perception is understandable. Although Bangladesh has made significant progress recently, the country remains ranked among least developed countries with wide social disparity, income inequality, and where affordability is a concern among a large section of consumers. The low level of disposable income may therefore contribute to financial pressure and financial stress which then impacts how consumers make evaluations between lower priced second-hand and higher priced new products. It can be assumed that the low level of affordability for expensive new products encourages the consumer to perceive second-hand as more beneficial. In other words, limitations in disposable income distorts and modifies the consumer's risk perception. For example, because the consumer has financial stress, he/she perceives second-hand as beneficial because it is more affordable over new products, and thereby he/she is willing to tolerate the risks. In other words, because of limited disposable income the consumer overestimates the benefits of second-hand consumption, and underestimates the risks and disadvantages.

In conclusion, findings suggest that both the concepts DI and CB can explain risk perception in the context of second-hand shopping, and therefore it is acceptable to assume that income level, and cognitive biases distorts risk perception for second-hand.

#### V. CONCLUSION AND GUIDELINE FOR FUTURE RESEARCH

There is general agreement among scholars that participation in recommence activity is growing and that the consumers are increasingly shifting consumption preferences towards second-hand products. It is also evident that the successful development of the market for second-hand depends on the willingness of consumers to continue to have favorable perception towards previously used products.

A key impediment to development of the second-hand market which discourages consumers is negative perception. This poor perception is primarily due to the ambiguity associated with product quality and past usage information. This informational uncertainty is interpreted by the consumer as risk. This study's focus on examining the determinants of risk perception is helped to provide new insight into how risk perception is processed in the mind of consumers. A key learning of this study has been that risk perception is an important and complex construct and that lower disposable income and cognitive biases can lead to modification of the risk perception. Construct.

The findings of this study also have relevance for practical application by businesses. The significant linkage between the indirect variables DI and CB with perceived risk imply that manipulation of these variables can lead to modification in the risk perception of consumers towards second-hand merchandise. This study, however, has a number of limitations. Firstly, the sample size was limited to only two urban centers, and therefore the findings cannot be considered to be representative of consumer behavior among Bangladeshi consumers. Secondly, there are numerous types of cognitive bias and this study has accounted for only a limited few. In the future, researchers may want to focus on issues, that were found to be limitations of this study. For instance, future researchers may adopt a larger sample size covering a wider geographic area to ensure better representation of the Bangladeshi consumer profile. Furthermore, although this study could not identify a relationship between emergency purchasing situation (EPS) and risk perception, further examination is recommended. This present study may have defined this variable too narrowly and therefore underestimated the significance of this variable. It is suggested that future studies may want to use a broader definition of cognitive bias in order to capture characteristics overlooked by this study.

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