Factors Influencing Online Shopping Behavior among Female Customers in Bangladesh

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Abstract— The growing use of the internet has shifted customers' attention towards online shopping significantly over the past decade. The rapid economic growth and large population of Bangladesh, with the numerous initiatives towards digitalisation of the country create a huge opportunity for e-commerce businesses to thrive. It is a quantitative study, and the statistical analysis involves Pearson's correlation and multiple regression analyses to examine the proposed hypotheses. The purpose of this study is to examine the effects of convenience and perceived security on online shopping behavior of Bangladeshi women, while also considering the mediating effect of customer satisfaction, since studies available on female customers are scarce despite huge unexplored potential. The findings show that convenience, perceived security have significant positive relationships with both customer satisfaction and online shopping behavior, while there is also a significant positive effect of customer satisfaction itself on online shopping behavior.

Index Terms— Convenience, E-commerce in Bangladesh, Female customers, Online shopping behavior, Perceived security.

I. INTRODUCTION

With the growing internet usage throughout the world, customers' attention has shifted to online shopping, resulting in a new type of consumer behavior (Musa et al., 2022). Bangladesh is one of the fastest-growing economies in South Asia, and the government of Bangladesh is also undertaking several projects to transform Bangladesh into a digital nation (Ali et al., 2020). In Bangladesh, online shopping was introduced in the late 1990s, but the majority of people were initially hesitant to use online platforms because of the infrastructure crisis, lack of trust, lack of cyberlaw, lack of security, and privacy issues (Sumi & Ahmed, 2022). Online shopping in Bangladesh is still associated with many such drawbacks (Salem et al., 2022).

Bangladeshi people are traditionally conservative in their approach to shopping which is likely to increase the dependence on online shopping but this also means they are hesitant to shop online when there are even minimal doubts about product quality, data security and privacy (Rahman et al., 2018). Despite its benefits, traditional retail remains dominant, posing a hurdle for e-commerce growth in Bangladesh (Nanjiba et al., 2017; Alam, 2020; Salam et al., 2022).

The Population and Housing Census 2022 revealed Bangladesh's total population at 165,158,616, with the number of females exceeding the number of males. Most of the local online shopping platforms are also run by female entrepreneurs in Bangladesh ("Women's E-Commerce Prospects," 2022). The 2021 e-Commerce Association of Bangladesh (e-CAB) report claimed that there are already 10 million online shoppers in Bangladesh, a number that is increasing rapidly. Furthermore, the Bangladesh Telecommunication Regulatory Commission (BTRC) reported that the total revenue generated from e-commerce transactions in Bangladesh from July 2021 to December 2021 was about USD 69 million, marking a notable increase from the previous fiscal year's revenue of around USD 40 million. The Bangladeshi eCommerce sector's growth rate was 21.2% in 2023, contributing to the overall global growth rate of 17.0% that year. Abir et al. (2020) claimed that Bangladesh's substantial economic growth and large population presents a huge opportunity for the e-commerce industry and e-commerce business.

Bangladesh has a huge number of potential female online customers who are active on social media and online shopping platforms but still prefer traditional shopping for social engagement and product assessment (Utami et al., 2021; Hasan, 2022; Fong et al., 2023). While there have been studies demonstrating that men tend to be more risk-averse in online shopping than women, female customers in Bangladesh report higher satisfaction with online shopping platforms than men (Salam et al., 2022; Chowdhury et al., 2022). The success of online platforms in countries like India, that have a similar

sociocultural background as Bangladesh, relies on women's attitudes toward online shopping despite stereotypes about female risk aversion (Arora & Aggarwal, 2018). Understanding the online shopping behavior of women is crucial for retailers looking to convert more female customers into regular online shoppers, particularly considering women's predominant presence in both online shopping and e-commerce entrepreneurship in Bangladesh (Kamal & Afrin, 2022). Hence, the purpose of this research is to examine the effects of convenience and perceived security on online shopping behavior of Bangladeshi women, while also considering the mediating effect of customer satisfaction.

II.   LITERATURE REVIEW

A.   Theoretical background

The expectancy-disconfirmation theory has been widely applied to measure customer satisfaction in online shopping behavior (Sinha et al., 2019). It signifies an individual's reaction after an event, such as shopping online or using a product (Nuradiana & Sobari, 2019). This theory suggests that satisfaction is determined by the comparison between customers' expectations and their perceived performance or outcomes (Kuzgun et al., 2022). Expectations, perceived performance, disconfirmation, and satisfaction are the four components of the theory (Kinyanjui, 2020). According to the principle, customer satisfaction or dissatisfaction is determined by how well a product or service meets the customers' expectations for it to perform (Fong et al., 2023).

B.   Hypotheses

Research has consistently shown that convenience is a significant predictor of online shopping behavior (Raman, 2019; Asiedu & Dube, 2020; Khan et al., 2023). Chelvarayan et al. (2021) confirmed a significant relationship between convenience and student's perception of online shopping. Mokhtar et al. (2020) demonstrated a similar finding while studying the online shopping behavior of young adults.

 Hypothesis 1: Convenience has a significant positive effect on online shopping behavior among women in Bangladesh.

 Kumar et al. (2020) found that the relationship between convenience and customers' purchase intention was fully mediated by customer satisfaction. On the contrary, Mokhtar et al. (2020) demonstrated a positive relationship between convenience and the online shopping behavior of young adults but did not find any significant relationship between customer satisfaction and customers' online shopping behavior. Duarte et al., (2018) and Ahmed et al. (2019) found that there is a strong relationship between convenience and customer satisfaction.

 Hypothesis 2: Customer satisfaction mediates the relationship between convenience and online shopping behavior among women in Bangladesh.

 Perceived security was found to have a significant positive impact on both customer satisfaction and repurchase intention in the context of online shopping (Chelvarayan et al., 2021; Wilson et al., 2021). However, a study carried out in Bangladesh found no significant effect of security on online shopping behaviour (Neger & Uddin, 2020).

 Hypothesis 3: Perceived security has a significant positive effect on online shopping behavior among women in Bangladesh.

 Aggarwal and Rahul (2018) demonstrated a positive relationship between perceived security and customers' purchase intention, besides confirming the mediating effect of customer satisfaction in the relationship between perceived security and customers' purchase intention. While Vasic et al. (2019) also confirmed that security has a positive effect on customer satisfaction, Fong et al. (2023) found a conflicting result.

 Hypothesis 4: Customer satisfaction mediates the relationship between perceived security and online shopping behavior among women in Bangladesh.

C.   Research Framework

Figure 1
The research framework
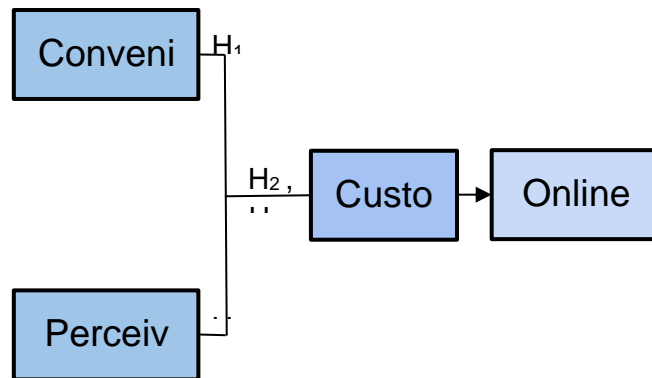
III.   **METHODOLOGY**

The current study uses a quantitative method and positivist philosophy to examine the relationships between the variables. The target population for this quantitative study consists of Bangladeshi women living in Dhaka who engage in online shopping activities and are of age 18 years and above. The determination of sample size in this study was based on suggestions from the literature and the requirements of some statistical analyses. Kline (2011) recommends using a sample size of 5, 10 or 15 cases per parameter depending on the complexity of the model. Considering the complexity of the conceptual framework of this study that includes a mediator, 10 cases per parameter were used to determine the required sample size. Accordingly, the minimum sample size required for this study is 30. To achieve the research objectives, a non-probability convenience sampling technique, which is a type of purposive sampling, was employed.

The research instruments were adopted and adapted from Mokhtar et al. (2020), Aggarwal and Rahul (2018), Tran and Nguyen (2022), Siraj et al. (2020) and Moshrefjavadi et al. (2012). Primary data for the current study was collected through self administered questionnaires distributed to the target population using social media platforms like facebook and instagram as an online survey. Statistical Package for the Social Sciences (SPSS) version 29 was used for the statistical analysis of the data.

IV.   **F**INDINGS

A.   Demographic statistics

   All 30 respondents were females of ages ranging from 18 to 40 years, with 70% within the age group of 18 to 25 years, 23.3% in 24 to 30 years and 6.7% in 30 to 40 years. 26.7% of the respondents' highest level of education was high school graduate or equivalent, 70% had a bachelor's degree and 3.3% had a master's degree. Among the respondents, 20% reported the approximate monthly household income to be less than BDT 25,000 (~USD 213), 20% with BDT 25,000 to 50,000 (~USD 213 to 426), 20% with BDT 50,000 to 1,00,000 (~USD 426 to 852), 23.3% with BDT 1,00,000 to 1,50,000 (~USD 852 to 1,278), 3.3% with BDT 1,50,000 to 2,00,000 (~USD 1,278 to 1,705) and 13.3% with more than BDT 2,00,000 (~USD 1,705). The respondents were also asked if they had access to the internet and all 30 respondents confirmed having access to the internet. 13.3% respondents reported shopping online less than once a year, 46.7% shopped online a few times in a year, and 40% a few times in a month.

B.   Reliability analysis

Table 1
Cronbach's reliability

Variables	Cronbach's alpha	Number of items
Convenience	0.950	7
Perceived security	0.900	5
Customer satisfaction	0.931	7
Online shopping behavior	0.910	15

All four variables had Cronbach's alpha values of 0.900 and above, therefore indicating very good reliability of the variables under study.

C.   Correlation

Table 2
Pearson's correlation coefficient

	Customer satisfaction	Online shopping behavior
Convenience	0.695	0.788
Perceived security	0.706	0.691
Customer satisfaction	–	0.720

Correlation is significant at the 0.01 level (2-tailed).

Table 2 shows the Pearson correlation between the independent variables, namely convenience and perceived security, the mediating variable which is customer satisfaction and the independent variable online shopping behavior. There is a significant moderate positive correlation between each pair of variables as shown in the table.

D. Multiple regression analysis

Dependent	Independent	R	R^2	p-value
Online shopping behavior	Convenience	0.788	0.621	0.001
Online shopping behavior	Perceived security	0.691	0.478	0.001
Online shopping behavior	Customer Satisfaction	0.720	0.519	0.001
Customer Satisfaction	Convenience	0.695	0.482	0.001
Customer Satisfaction	Perceived security	0.706	0.499	0.001

Table 3: Results for factors affecting online shopping behavior

According to table 3, 48.2% of the variation in customer satisfaction can be explained by convenience and 49.9% by perceived security. Furthermore, 51.9% variation in online shopping behavior can be accounted for by customer satisfaction, 48.2% by convenience and 49.9% by perceived security. All these results are significant at 99% level of confidence with p-values of less than 0.01.

V. DISCUSSION

From the analysis, it can be concluded that convenience and perceived security both have significant effects on online shopping behavior, and the mediating effect of customer satisfaction is also supported. However, the effect of convenience on online shopping behavior is more compared to the effect of perceived security. On the other hand, perceived security has a more significant positive relationship with customer satisfaction compared to convenience. Hypotheses 1, 2, 3 and 4 are all supported by the correlation and regression statistics, but further analysis with structural equation modeling would produce more detailed and reliable results, which is a limitation of the current study.

VI. CONCLUSION

Insights into customer behavior and preferences gained from studying online shopping behavior can help online platforms tailor their experiences to meet customer needs, resulting in higher engagement, sales, and revenue. Marketers can use these insights to create more effective campaigns, while policymakers can better understand e-commerce's impact on the economy and consumer behavior. Consumers themselves can benefit by making more informed purchasing decisions, optimizing their online shopping experiences, and potentially saving time and money while making sustainable choices.

Future studies can investigate online shopping behavior among more diverse and larger samples for better generalisability of the findings, and also examine the effect of different factors on women's online shopping behavior.

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