Factors affecting online shopping behavior in Bangladesh: 
A demographic perspective

Mohammad Kamal Hossain (a) Md Abdus Salam (b) Sheikh Sakib Jawad (c)

(a) Asst. Prof., Department of Accounting and Information Systems, Jashore University of Science and Technology, Jashore 7408, Bangladesh
(b) Asst. Prof., Department of Accounting and Information Systems, Jashore University of Science and Technology, Jashore 7408, Bangladesh
(c) Master’s Student, Department of Accounting and Information Systems, Jashore University of Science and Technology, Jashore 7408, Bangladesh

ARTICLE INFO

Article history:
Received 07 May 2022
Received in rev. form 18 June 2022
Accepted 22 June 2022

Keywords:
Online shopping behavior, demographic characteristics, chi-square test, Cramér’s V.

JEL Classification:
M31, M39, and L81

ABSTRACT

Prior studies in Bangladesh examined how several non-demographic factors influenced consumers’ online buying behavior. However, no specific research has been conducted to examine an association between consumers’ demographic factors and the online shopping behavior of Bangladeshi buyers. Therefore, this study aimed to examine the association between online shopping behavior and the demographic characteristics of Bangladeshi buyers. The association between six consumers’ demographic variables, such as age, gender, income, education, occupation, and marital status, and online shopping behavior, proxied by the frequency of online shopping, was examined. Primary data through a structured questionnaire was collected from the 547 respondents in urban and rural areas of seven divisions in Bangladesh through offline and online surveys. The chi-square test was used to examine the association between consumers’ demographic characteristics and online shopping behavior. The study found that male and married consumers with a higher level of education and higher-category jobs have a higher propensity to shop online. However, consumers’ age and income level do not significantly impact their online shopping behavior. The study’s outcomes are expected to provide e-commerce firms with insight into consumers’ online shopping behavior, allowing them to develop appropriate business strategies tailored to the consumers’ behavior and preferences, thus ensuring a competitive advantage over competitors in various ways.

Introduction

The global e-commerce market is expanding at a breakneck pace. The influence of the World Wide Web (www) on people’s views and actions has been tremendous worldwide. In recent years, improved internet access, rising smartphone users, growing mobile internet users, lower smartphone costs, and increased internet speed have made online shopping more user-friendly and accessible (Bhatt, 2019). Consumers buy their necessary products online to save time and take advantage of the wide range of products and services available (Rahman et al., 2018). They also prefer online shopping to avoid the complexities of traditional offline markets or to find better deals (Bhatt, 2019).

M-commerce (mobile commerce) and F-commerce (Facebook commerce) are very popular in today’s e-business world. Bangladesh’s commercial environment is no exception to e-global commerce’s appeal. There are over 2500 e-commerce platforms in the country, with 1% of large businesses, 4% of medium businesses, and 95% of small businesses (Islam, 2022). Aside from e-commerce, Bangladesh has seen a surge in Facebook-based businesses or F-commerce. There are over 500,000 Facebook-based business pages, with 200,000 of them now actively operating businesses in the country (Islam, 2022). Even though e-commerce platforms in Bangladesh are growing at a 25% annual rate, the dropout rate for these new entrants is around 35% (Islam, 2022). The average basket value of the country’s e-commerce sector is currently BDT 2,200, according to a report by e-Cab (2020). The average daily transaction volume of e-commerce was BDT 440 million in 2020, and by the end of 2021, it had risen to BDT 160 billion (Islam,
The rapid growth of online shopping in Bangladesh has piqued the interest of researchers in determining the factors influencing customers' decisions to purchase products online or not. Thus far, many studies have been conducted to date on the behavioral reasons for online shopping in Bangladesh. For example, Uddin and Sultan (2015) investigated the important factors affecting the online purchasing decisions of Bangladeshi buyers. Previously, Mahmud and Hossain (2014) examined how different types of internet customers perceive e-commerce websites. Rahman et al. (2018) also examined consumer buying behavior towards online shopping in Dhaka city. Shawon, Hasan, Nayeem, and Uddin (2018) investigated consumer perceptions of the online marketplace and how they influence their online purchasing behavior. Neger and Uddin (2020) examined the factors influenced online shopping consumers’ internet shopping behavior in Bangladesh during the COVID-19 pandemic. Similar to this, Abir, Husain, Waliullah, Yazdani, Salahin, & Rahman (2020) conducted a study on consumer buying behavior towards a selected online shopping site in Dhaka, Bangladesh. The psychographic, economic, sociocultural, and demographic factors that influence consumers' online shopping behavior in Dhaka city were the main focus of this study. Bhatt, Rehman, Ahtisham, and Akram (2021) also studied why people are discouraged and how various factors influence online shopping behavior. Recently, Ferdous, Alam, and Mabhub (2022) examined the most important factors affecting consumers’ online shopping behavior in the Dhaka Metropolis in Bangladesh.

Prior studies commonly looked into the factors other than non-demographics affecting the online shopping behavior of consumers in Bangladesh, except for the study by Abir et al. (2020). However, instead of examining each demographic factor individually, they examined how the factors combined influenced online shopping behavior. Each consumer demographic (e.g., age, gender, marital status, education, income, and occupation) individually plays a critical role in understanding and responding to consumers since each factor affects their decision to buy products online in a unique way. For example, consumers in the middle and upper-income brackets are more likely to buy products online, whereas consumers in the lower-income brackets are less likely to do so. Similarly, young consumers are more likely than older consumers to purchase products online. Therefore, demographic variables play a significant role in online shopping behavior (Brown, Pope, & Voges, 2003; Bhatt, 2019). Several previous studies other than on Bangladeshi consumers examined the effects of consumers’ demographics on their online shopping behavior and confirmed a significant association of demographic characteristics with online shopping behavior. For instance, Mulhern, Williams, and Leone (1998) revealed that consumers’ preferences are influenced by their occupation and education level. Brown and Venkatesh (2005) and Verma and Patel (2017) documented that consumers’ gender, marital status, and family size significantly influence their online purchasing preferences. A study by Naseri and Elliott (2011) showed that five fundamental demographic factors, such as income, age, gender, education, and occupation, can predict online shopping, but their predictive power varies by product type. Bhatt (2019) documented that income and education levels correlate positively with Indian consumers’ online shopping behavior. Bhat, Islam, and Sheikh (2021) found a significant difference in consumers' perceptions of online purchase intentions across various genders, ages, marital status, and family structure in Jammu and Kashmir. Mehrotra, Elias, Al-Alawi, and Al-Bassam (2019) revealed that gender did not appear to be a significant factor among university students and staff in the Gulf Cooperation Council (GCC) countries, but education and income did. Sethi and Sethi (2017) also showed that gender and marital status significantly affected online purchase intention in Punjab, India. Similarly, in Pune, Maharashtra, India, Sharma and Parmar (2018) documented a significant difference in purchase intention reported by gender, education, occupation, and income. However, Bellman, Lohse, and Johnson (1999) found that demographic factors such as age, wealth, and education had a relatively small effect on whether people bought goods online. The results of these studies might not, however, be applicable to Bangladeshi consumers. This is due to the fact that consumers in Bangladesh have different socioeconomic statuses, cultural preferences, levels of technological sophistication, attitudes, and other characteristics than consumers in other nations. Due to this circumstance, the study aims to examine how demographic factors affect Bangladeshi consumers' online shopping behavior.

This study included a sample of 515 responses from both urban and rural areas of 27 districts under 7 divisions in Bangladesh. The respondents had previous experience with online shopping. Consumers’ demographic variables, which include age, gender, income, education, occupation, and marital status, and the frequency of online shopping, which represents the online shopping behavior of consumers, were collected through a structured questionnaire. A chi-square (\( \chi^2 \)) test was performed to assess the relationship between consumers' demographic characteristics and online shopping behavior. The Cromer's V test was then performed to determine the strength of the association between consumer demographic characteristics and their online shopping behavior.

The rest of this paper is organized as follows. Section 2 reviews the existing literature on online shopping behavior and develops hypotheses, while Section 3 presents the methodology used in this study. Section 4 discusses empirical findings, and Section 5 draws conclusions.

**Literature Review**

**Theoretical Background**

Businesses and microeconomics are increasingly studying consumer buying behavior. There is a diverse literature on consumer buying behavior (Peighambari, Sattari, Kordestani, & Oghazi, 2016). Consumer buying behavior refers to the behaviors and decision-
making processes of consumers who acquire products and services for personal consumption (Qazzafi, 2020). The buying behavior of consumers is usually affected by (a) personal factors (e.g., age, income, education, occupation, lifestyle, gender, and marital status); (b) psychological factors (e.g., motivation, perception, learning, and attitude and belief); (c) cultural and social factors (e.g., family, reference groups, and roles and status), and (d) economic factors (e.g., personal and family income, consumer credits, savings, and liquid assets) (Qazzafi, 2020).

Online shopping is a type of electronic commerce in which one can purchase goods or services directly from the seller via the Internet (Rahman et al., 2018). The benefits of online shopping are obvious for modern consumers because, with their hectic schedules, they don't have time to shop much. Trust and perceived benefits are typically the two factors that influence consumer attitudes toward online shopping (Hoque, Ali, & Mahfuz, 2015). Their purchasing behaviors are also influenced by another critical factor: technology (Peighambari et al, 2016) because it affects their perception and behavior. This study examines how personal factors, known as demographics, affect the online shopping behavior of Bangladeshi consumers. These factors include age, gender, marital status, educational level, occupation, and income. Some of these factors directly impact consumer purchasing behavior, while others have an indirect impact (Qazzafi, 2020).

**Empirical Review and Hypotheses Development**

Age, as a demographic factor, has an impact on the frequency of online purchases among consumers. Buying behaviors of consumers are always dynamic and may differ with age (Qazzafi, 2020). A study by Khare, Khare, and Singh (2012) documented that the age of Indian consumers affected their online shopping behavior. Shoppers of different ages have differing attitudes towards online shopping (Bhatt, 2019). According to Kanchan, Kumar, and Gupta (2015), shoppers aged 30–45 years are more interested in online shopping than other age groups. Bhat et al (2021) showed that young consumers are likelier to engage in e-shopping. Older online shoppers look for fewer items than their younger counterparts; however, they spend the same amount (Bhatt, 2019).

Moreover, younger shoppers would be more likely to explain the variance in their purchase behavior if they had first searched for the product online (Sorce, Perotti, & Widrick, 2005). Technology, among other things, is one of the reasons why the younger generation prefers to shop online more than their elders. According to Chung, Park, Wang, Fulk, and McLaughlin (2010), older shoppers are less eager to embrace technology, are more careful, and want a greater guarantee when purchasing online. Atkin, Jeffres, and Neuendorf (2009) also substantiate Chung et al (2010) that younger shoppers are more technologically adventurous and use the internet more than people of other ages. Moreover, shopping in stores appears to be a social experience and a diversion for older consumers (Naseri, 2011). Dholakia and Uusitalo (2002) also found that older people gain more pleasure from in-store shopping than younger people. Therefore, the following hypothesis is to be tested:

**H1:** There is a significant relationship between consumers’ age and online shopping behavior.

Gender is one of the demographic variables of shoppers which impacts online shopping behavior (Verma & Patel, 2017). Women's shopping preferences differ from men's (Bhatt, 2019), with females having a lower perception of online shopping than males (Hasan, 2009; Bhatt, 2019). According to Hasan (2009), males expressed a stronger desire to shop online than females. In a study, Khare et al (2012) found that gender influenced Indian consumers’ attitudes toward online shopping. Bhat et al (2021) revealed that male consumers have higher e-shopping intentions than female consumers. Several earlier studies (e.g., Kim & Kim, 2004; Koyuncu & Lien, 2003; Kwak, Fox, & Zinkhan, 2002; Lightner, Yenisey, & Salvendy, 2002) also revealed that the number of online transactions conducted by men is higher than that of women. One of the most common explanations for the gender gap in online shopping behavior is that men are more risk-takers than women and rely more on themselves to make purchasing decisions (Akhter, 2003). According to Sun, Mao, and Yin (2020), men are more pragmatic, but women experience more significant anxiety when confronted with new activities like online shopping. Furthermore, Asian women are more affected by men than in their immediate environment. Men, particularly husbands, may influence Asian women's online shopping behavior. Emotional and social interactions also impact women, who perceive more risk (Isis, 2014). Therefore, the following hypothesis is to be tested:

**H2:** There is a significant relationship between the gender of consumers and online shopping behavior.

Individuals' and households' income plays a crucial role in influencing consumers' online behavior. Consumers with high incomes or wealthier consumers have high purchasing power (Hawkins, Best, & Coney, 2003). Their access to the internet and other technologies required for online shopping makes them more likely to do their online shopping. (Akhter, 2003; Monsuw ś, Dellaert, & de Ruyter, 2004). Moreover, Grewal, Iyer, and Levy (2004) argue that those who work long hours are reluctant to do in-store shopping and are more likely to shop online. The busiest consumers tend to be those earning higher incomes and working longer hours, so it makes sense that online shopping is more attractive to them. It is because in-store shopping may have a higher opportunity cost than online shopping. Also, fashionable consumers are more likely to do online shopping. In a study, Sharma and Parmar (2018) documented that consumer with higher and middle incomes purchase items online to a greater extent than consumers with lower incomes. Mehrrota et al (2019) found that consumers who have higher incomes tend to shop online more frequently. A study by Bhatt (2019) also revealed a significant positive relationship between consumers’ income level and online shopping behavior. Therefore, the following hypothesis is to be tested:

**H3:** There is a significant relationship between consumers’ income and online shopping behavior.
Empirical studies suggest that consumers with a good education are more likely to be involved with online shopping (Kim & Kim, 2004; Koyuncu & Lien, 2003; Gong et al., 2013). This is due to the fact that education increases the perceived ability to deal with uncertainty and computer self-efficacy (Burroughs & Sabherwal, 2002). According to Hui & Wan (2006), more educated consumers are more likely to shop online because they believe there are fewer security concerns. More educated consumers appear to be more likely to possess the cognitive and behavioral skills to deal with security issues, leading them to shop online (Naseri, 2011). A study by Naseri (2011) provided evidence of a significant positive impact of education on online shopping. Sharma and Parmar (2018) found that postgraduate students are more inclined to purchase goods online than undergraduate and high school students. Recently, Bhatt (2019) and Mehrotra et al. (2019) revealed a significant positive association between the level of education and the online shopping behavior of consumers. Therefore, the following hypothesis is to be tested:

\[ H_4: \text{There is a significant relationship between consumers’ level of education and online shopping behavior.} \]

Occupation has been shown to be a good predictor of online shopping (Naseri, 2011). However, it impacts consumers’ online shopping behaviors through other demographic variables such as income and education. This is because consumers with a high level of occupation are typically well-educated and high earners and are more likely to shop online. Sector-specific occupations, such as those in the private and public sectors, are also meaningful, as private sector occupations earn more than public sector occupations. Thus, consumers with a high level of private-sector employees are expected to be more inclined to shop online than their counterparts. Sharma and Parmar (2018) documented that consumer working in private sectors such as IT and manufacturing are likelier to purchase online than those working in public sectors, students, and self-employed consumers. Similarly, consumers with managerial or professional jobs are more likely to purchase online due to their higher-income (Naseri, 2011). Karjaluoto, Mattila, and Pento (2002) revealed that working in a high-status job is related to positive attitudes toward online banking. Furthermore, high-level professional consumers are preoccupied with their jobs, and online shopping is expected to save them time. Therefore, the following hypothesis is to be tested:

\[ H_5: \text{There is a significant relationship between consumers’ occupation and online shopping behavior.} \]

Among other factors, consumers’ marital status affects their online shopping behavior. However, one stream of studies (e.g., Richa, 2012; Bhatt, 2019) found no evidence of a link between marital status and the online shopping behavior of consumers. Another stream of studies confirmed a significant relationship between marital status and online shopping behavior. For example, Gong et al. (2013) found that marital status is a significant predictor of online shopping along with other demographic variables. According to the study by Shalini and Malini (2015), married consumers prefer to shop online more than those who are single. Naseri (2011) offered two possible explanations. First, a married consumer is likely to earn more because both the wife and husband may be employed, giving them more disposable income. Second, marriage increases the likelihood of having children, making time more valuable and conventional shopping more expensive for married consumers. In contrast, Singh and Kashyap (2015) and Bhat et al. (2021) revealed that unmarried consumers prefer online shopping more than married consumers. Similarly, Sethi and Sethi (2019) also documented that unmarried consumers are more likely to purchase online than married and divorced consumers in India. The reason could be that married consumers have more obligations and responsibilities to their families than unmarried consumers, who do not have to take on responsibilities for their families, leading them to do more online shopping (Singh & Kashyap, 2015). Therefore, the following hypothesis is to be tested:

\[ H_6: \text{There is a significant relationship between consumers’ marital status and online shopping behavior.} \]

### Research and Methodology

#### Sample Selection and Sources of Data

This study included a sample of consumers from both urban and rural areas of 27 districts under 7 divisions in Bangladesh. The sample of respondents included those who had previous experience with online shopping. A structured questionnaire was used to collect data during the COVID-19 pandemic from February to May 2021. There were two sections to the questionnaire. The respondents' demographic data was covered in the first section, and consumers' online shopping behaviors were covered in the second. The questionnaires were distributed to respondents using convenience sampling. A total of 547 questionnaires were collected from respondents, 487 of which were collected offline and 60 online. Due to incomplete survey responses, 32 responses were excluded from the sample, leaving 515 questionnaires chosen for the study. These questionnaires were error-free and filled out.

#### Variables

This study examines the impact of consumers' demographic variables on online shopping behavior. Consumers' demographic variables include age, gender, income, education, occupation, and marital status. The frequency of online shopping represents the online shopping behavior of consumers. Online shopping frequency may be influenced by consumers' gender identity, marital status, age, education, and income level (Bhatt, 2019).
Conceptual Framework

This study examines the association between consumers’ demographic characteristics and online shopping behaviors. Six consumers’ demographic characteristics, such as age, gender, education, income, occupation, and marital status, were examined to understand the effect on their online shopping behavior. Figure 1 conceptualizes the interrelationship between consumers’ demographic characteristics and their online shopping behaviors.

![Figure 1: Interrelationship between Consumers' Demographic Characteristics and Online Shopping Behaviors, Source: Authors](image)

Data Analysis

This study performed a chi-square ($\chi^2$) test to assess the relationship between consumers’ demographic characteristics and online shopping behavior. The following is how the $\chi^2$ statistic is estimated:

$$\chi^2 = \sum \frac{(f_0 - f_e)^2}{f_e}$$

Where $f_0$ denotes the observed values, and $f_e$ denotes the expected values.

Cramér’s $V$ test was later carried out in this study to determine the strength of the relationship between consumers’ demographic characteristics and their online shopping behaviors. The following is how the Cramér’s $V$ statistic is estimated:

$$\phi_c = \sqrt{\frac{\chi^2}{N(k-1)}}$$

Where $\phi_c$ denotes Cramér’s $V$, $\chi^2$ is the chi-square statistic, $N$ is the sample size involved in the study, and finally, $k$ is the lesser number of demographic variables and online shopping behavior. The Cramér’s $V$ test may yield a 0–1 estimate. A value of 0 indicates no relationship between the two variables, while a value of 1 indicates a perfect relationship between the two variables. A value of $\leq 0.2$ indicates a weak relationship between the two variables; 0.2 to $\leq 0.6$ indicates a moderate relationship between the two variables; and finally, 0.6 indicates a strong relationship between the two variables.

Results and Discussion

Demographic Context of Online Buyers in Bangladesh

Table 1 presents the distribution of respondents based on their demographic characteristics. The majority of respondents (82.6%) were young people between the ages of 21 and 30, 10.50% were between the ages of 31 and 40, and only 7% were under the age of 20. Two-thirds of the respondents were male, and the remaining respondents were female. A little over half (51.85%) of the respondents’ monthly income was less than BDT 5,000; 28.15% of them were in the BDT 5,000–10,000 income range; 15.53% were in the BDT 10,000–15,000 income range; and the remaining were in the BDT 15,000–20,000 range. The vast majority of respondents (86.41%) were highly educated, with 13.79% having postgraduate and 72.62% having graduate degrees. The remaining 13.59% of respondents had a higher secondary school diploma, a secondary school diploma, or other educational credentials. A sizable proportion of respondents (40.20%) were students, while only 33.20% worked in various public and private sectors, 25.63% were housewives, and a negligible proportion were businessmen. Only a small percentage (18.64%) of respondents were married, and the great majority (81.36%) were single.
Table 1: Distribution of Respondents based on Demographic Variables

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>No. of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 20</td>
<td>36</td>
<td>7.00</td>
</tr>
<tr>
<td>21-25</td>
<td>300</td>
<td>58.30</td>
</tr>
<tr>
<td>26-30</td>
<td>125</td>
<td>24.30</td>
</tr>
<tr>
<td>31-35</td>
<td>53</td>
<td>10.30</td>
</tr>
<tr>
<td>36-40</td>
<td>1</td>
<td>0.20</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>128</td>
<td>24.85</td>
</tr>
<tr>
<td>Male</td>
<td>387</td>
<td>75.15</td>
</tr>
<tr>
<td><strong>Income (BDT) per month</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 5000</td>
<td>267</td>
<td>51.85</td>
</tr>
<tr>
<td>5,000-10,000</td>
<td>145</td>
<td>28.15</td>
</tr>
<tr>
<td>10,000-15,000</td>
<td>80</td>
<td>15.53</td>
</tr>
<tr>
<td>15,000-20,000</td>
<td>23</td>
<td>4.47</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postgraduate</td>
<td>71</td>
<td>13.79</td>
</tr>
<tr>
<td>Graduate</td>
<td>374</td>
<td>72.62</td>
</tr>
<tr>
<td>Higher Secondary</td>
<td>63</td>
<td>12.23</td>
</tr>
<tr>
<td>Secondary</td>
<td>4</td>
<td>0.78</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>0.58</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>5</td>
<td>0.97</td>
</tr>
<tr>
<td>Housewife</td>
<td>132</td>
<td>25.63</td>
</tr>
<tr>
<td>Job</td>
<td>171</td>
<td>33.20</td>
</tr>
<tr>
<td>Student</td>
<td>207</td>
<td>40.20</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>96</td>
<td>18.64</td>
</tr>
<tr>
<td>Single</td>
<td>419</td>
<td>81.36</td>
</tr>
</tbody>
</table>

Source: Authors

Frequency of Online Shopping

Table 2 shows respondents' online shopping behavior in terms of how often they shop online. A small percentage of respondents shopped online once or twice a week or once every two weeks. Only 11.65% of respondents purchased products online once a month. The vast majority (72.04%) did online shopping once every 2–3 months, while only 13.98% did so once in their lives. Shopping behavior in terms of gender, the frequency of buying products online is higher for males compared to females. 83.33% of males and 16.67% of females did online shopping within two weeks, while 68.33% of males and 31.67% of females did online shopping within a month. 75.47% of males and 24.53% of females did online shopping within 2–3 months. 77.78% of males and 22.22% of females did online shopping within a month. When it comes to shopping habits by gender, men are more likely than women to make frequent online purchases. Within two weeks, 83.33% of men and 16.67% of women shopped online; within a month, 68.33% of men and 31.67% of women did the same. Within 2–3 months, online shopping was done by 75.47% of men and 24.53% of women. Within a month, online shopping was done by 22.22% of women and 77.78% of men.

Table 2: Distribution of Respondents Based on the Frequency of Online Shopping

<table>
<thead>
<tr>
<th>Frequency of Online Shopping</th>
<th>No. of Respondents</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Once a week</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>(1.16%)</td>
</tr>
<tr>
<td>Twice a week</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>(0.39%)</td>
</tr>
<tr>
<td>Once every two weeks</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>(0.78%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>41</td>
<td>19</td>
<td>60</td>
<td>(11.65%)</td>
</tr>
<tr>
<td><strong>Once every 2-3 months</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once every 2-3 months</td>
<td>280</td>
<td>91</td>
<td>371</td>
<td>(72.04%)</td>
</tr>
<tr>
<td>Once so far</td>
<td>56</td>
<td>16</td>
<td>72</td>
<td>(13.98%)</td>
</tr>
</tbody>
</table>

Source: Authors
Association between Consumers’ Demographic Variables and Their Online Shopping Behaviors

Table 3 presents the chi-square test estimations of the association between consumers' demographic variables and online shopping behaviors. To determine whether consumers’ demographic variables were related to their online shopping behavior, a chi-square test for independence with =0.05 was used. As shown in Table 3, the chi-square test estimation of age on consumers’ online shopping frequency is statistically insignificant, \(\chi^2 (1, N=515, df=20) = 25.174, p>0.195\), rejecting \(H_1\). This result indicates that consumers’ age does not affect their online shopping behavior, implying that they have indifferent attitudes toward online shopping regardless of age. Given that the study was conducted during the COVID-19 pandemic, it is conceivable that COVID-19 restrictions and safety concerns played a role in consumers of all ages having indifferent attitudes toward online shopping.

Table 3: Chi-square Test Estimations – Association between Consumers’ Demographic Variables and Their Online Shopping Behaviors

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>Chi-square estimations</th>
<th>df</th>
<th>Asymptotic significance (2-sided)</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>25.174</td>
<td>20</td>
<td>0.195</td>
<td>Insignificant (i.e., reject (H_1))</td>
</tr>
<tr>
<td>Gender</td>
<td>37.436</td>
<td>5</td>
<td>0.001</td>
<td>Significant (i.e., failed to reject (H_2))</td>
</tr>
<tr>
<td>Income</td>
<td>37.808</td>
<td>45</td>
<td>0.768</td>
<td>Insignificant (i.e., reject (H_3))</td>
</tr>
<tr>
<td>Education</td>
<td>101.743</td>
<td>20</td>
<td>0.001</td>
<td>Significant (i.e., failed to reject (H_4))</td>
</tr>
<tr>
<td>Occupation</td>
<td>121.205</td>
<td>20</td>
<td>0.001</td>
<td>Significant (i.e., failed to reject (H_5))</td>
</tr>
<tr>
<td>Marital status</td>
<td>26.090</td>
<td>5</td>
<td>0.001</td>
<td>Significant (i.e., failed to reject (H_6))</td>
</tr>
</tbody>
</table>

Table 3 shows that the chi-square test weight of gender on online shopping frequency was positive and statistically significant, \(\chi^2 (1, N=515, df=5) = 37.436, p<0.001\), failing to reject \(H_2\). The Cramér’s V test \(\phi\) coefficient of gender on online shopping is 0.270, \(p<0.001\), as reported in Table 4. The results provide strong evidence that consumers’ gender identity has a moderate effect on their online shopping behavior. More specifically, male consumers are more inclined to do online shopping as compared to female consumers. This result is consistent with that of Kim and Kim (2004), Koyuncu and Lien (2003), Kwak et al (2002), Lightner et al (2002), Hasan (2009), Bhatt (2019), and Bhat et al (2021). In the context of Bangladesh’s socioeconomic perspective, one plausible reason could be that men as consumers are less risk-averse than women, as they are the primary earners in the family and make purchasing decisions. Furthermore, the men in the family are more technologically savvy than the women, leading to an online shopping decision.

Table 4: Cramér’s V Test Estimations – Effect Size of Consumers’ Demographic Variables and Their Online Shopping Behaviors

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>(\phi) ((\phi)) values</th>
<th>Approximate significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.221</td>
<td>.195</td>
</tr>
<tr>
<td>Gender</td>
<td>.270</td>
<td>.000</td>
</tr>
<tr>
<td>Income</td>
<td>.121</td>
<td>.768</td>
</tr>
<tr>
<td>Education</td>
<td>.222</td>
<td>.000</td>
</tr>
<tr>
<td>Occupation</td>
<td>.243</td>
<td>.000</td>
</tr>
<tr>
<td>Marital status</td>
<td>.225</td>
<td>.000</td>
</tr>
</tbody>
</table>

As seen in Table 3, the chi-square test estimation of income on online shopping frequency is statistically insignificant, \(\chi^2 (1, N=515, df=45) = 37.808, p>0.768\), rejecting \(H_5\). Contrary to expectations, this finding suggests no evidence that consumers’ income levels influence their online shopping behaviors. The findings contradict those of Sharma and Parmar (2018), Mehrrota et al (2019), and Bhatt (2019). This rather contradictory result may be due to the fact that most respondents are students with nearly identical income levels. They rely on their family for funds to cover their daily and educational expenses. However, some earn money from part-time jobs like tutoring lower-class students in their homes.

As presented in Table 3, the chi-square test estimation of consumers’ education and online shopping frequency is statistically significant, \(\chi^2 (1, N=515, df=20) = 101.743, p<0.001\), suggesting the failure to reject \(H_4\). The \(\phi\) coefficient of the Cramér’s V test is .222, \(p<0.001\), reported in Table 4, indicating a medium-sized relationship between the variables. These findings imply that consumers’ levels of education have a moderate impact on their online shopping behavior. That is, consumers with a higher level of education are moderately more likely to shop online than consumers with a lower level of education. It is possible that consumers with higher levels of education have better cognitive and behavioral skills and a higher perception of being able to deal with uncertainty and computer self-efficacy, which may explain why they purchase more products online. The result agrees with Kim and Kim (2004), Koyuncu and Lien (2003), Gong et al (2013), Hui and Wan (2006), Naseri (2011), Sharma and Parmar (2018), Bhatt (2019), and Mehrrota et al (2019).

Regarding the effect of consumers’ occupation on their online shopping frequency, the chi-square test produces a statistically significant estimation, \(\chi^2 (1, N=515, df=20) = 121.205, p<.001\), reported in Table 3, and the Cramér’s V test yields a \(\phi\) coefficient
of .243, $p < .001$, reported in Table 4. The $\chi^2$ estimation fails to reject $H_5$, and the $\phi$ coefficient indicates a medium-sized impact of occupation on online shopping frequency. In line with those of previous studies, such as Naseri (2011), Karjaluoto et al (2002), and Sharma and Parmar (2018), these results suggest that consumers’ occupation has a medium-sized impact on their online shopping behavior. The fact that consumers with high levels of occupation are educated could be one explanation for this. The ability to deal with uncertainty and computer self-efficacy may have contributed to their propensity for online shopping.

As for consumers’ marital status and their online shopping frequency, Table 3 shows that the chi-square test estimation is statistically significant, $\chi^2 (1, N=515, df=5) = 26.090, p < .001$, and Table 4 reports the Cramér’s V test’s phi ($\phi$) coefficient of $0.225, p < .001$. The $\chi^2$ estimation confirms the failure to reject $H_6$, and the $\phi$ coefficient indicates a moderate-sized effect of marital status on online shopping frequency. According to the findings, consumers’ marital status does have a moderate influence on how they shop online. In particular, married consumers shop online more frequently than consumers who are single. These results reflect those of Gong et al (2013) and Shalini and Malini (2015), who found that married consumers favor online shopping more than single consumers. Earlier studies offer several possible explanations for this result. First, because both the wife and the husband may have jobs, the aggregate income of married consumers may be higher, meaning they would have more money to spend online shopping. Second, they might be parents, which increases their time and increases the cost of doing regular shopping for them.

Conclusion

The aim of this study is to examine whether the demographic variables of consumers in Bangladesh influence their online shopping behavior. The results suggest that male consumers are more likely to shop online than female consumers. Consumers with a higher level of education are more likely to shop online than consumers with a lower level of education. Also, consumers with high-category jobs have a higher propensity to shop online than those with low-category jobs. Finally, married consumers are more likely to shop online than single consumers. However, the age and income level of consumers do not significantly impact online shopping behavior.

The findings of the study have a number of implications. E-commerce companies could use the findings to formulate a mix of online marketing strategies to persuade online shoppers. Because this study examined the relationship between different demographic variables and online shopping behavior, online retailers can also benefit from the findings. When developing strategies to attract more customers to their portals, online retailers or websites may consider their customers’ “gender, education, occupation, and marital status” demographic variables. Aspects that would pique the interest of different online shoppers with varying levels of education and employment could be included in online portals. They can concentrate on making their components distinct based on factors like marital status and gender.

This study, however, has several limitations. First, this study includes a large proportion of respondents from the Khulna division’s city areas and a smaller proportion from non-metropolitan areas. Second, the majority of respondents were students, most of whom were young, unmarried, and had low incomes. Therefore, future studies can examine the effect of demographic variables on consumers’ online shopping behavior from a broader perspective by including respondents from Bangladesh’s non-metropolitan cities and villages. Future studies may include older consumers who earn more money and are married.

Acknowledgement

All authors have read and agreed to the published version of the manuscript.

Author Contributions: Conceptualization, Mohammad Kamal Hossain; methodology, Mohammad Kamal Hossain; validation, Md Abdus Salam; formal analysis, Mohammad Kamal Hossain and Sheikh Sakib Jawad; investigation, Sheikh Sakib Jawad; resources, Sheikh Sakib Jawad; writing— Mohammad Kamal Hossain and Sheikh Sakib Jawad; writing— review and editing, Md Abdus Salam.

Funding: This research was funded by the authors themselves.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to restrictions.

Conflicts of Interest: The authors declare no conflict of interest.

References


c-eCab (2020), e-Commerce Association of Bangladesh. Retrieve from https://e-cab.net/


Across Different Cultures. Emerging Research and Opportunities (126-151), USA: IGI Glob. https://doi.org/10.4018/978-1-7998-0272-3-ch008


Publisher's Note: Bussecon International stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

International Journal of Business Ecosystem and Strategy by Bussecon International Academy is licensed under a Creative Commons Attribution 4.0 International License.