Research Article

Factors Affecting Consumer Behavior Regarding Online Shopping: A Case Study of Faisalabad

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Abstract

The younger generation in underdeveloped countries is starting to shop online to buy and sell things after it worked well in more developed countries. It is also getting better because of new technology. It makes it easier for people to buy things from home by saving them time and energy. This study examined the determinants influencing customer behavior about online purchasing in developing nations such as Pakistan. There are a number of things that can affect how people shop online, such as financial risk, product risk, convenience, the risk of not getting the item, the return policy, damaged items, and the quality of the products. The influence of these and other factors on consumer behavior was evaluated through online shopping. This study utilized random sampling to choose about 230 respondents from Faisalabad, Pakistan's third largest city. A well-organized questionnaire was made to gather information. We used principal component analysis to figure out what characteristics affect how people in Faisalabad shop online. The results indicated that a Kaiser-Meyer-Olkin (KMO) value exceeding 0.50 signifies the appropriateness of the sampling for principal component analysis, while the anticipated Kaiser-Meyer-Olkin (KMO) statistic of 0.720 demonstrates the sufficiency of the factor analysis. We talked about a total of 9 components and 29 constraints of variables that described the main aspects that affected online shopping. But there were three main things that had an effect on online purchasing. The first part was browsing the internet, the second part was convenience, and the third part was saving time.

Keywords: Online shopping, Principal component analysis, Consumer behavior, Trust.

Introduction

Since the commercialization of the internet in the early 1990s, online shopping has experienced exponential growth. In online shopping internet is used as a medium for buying and selling goods and services (Darsono et al., 2019; Javaria et al., 2020). Most of the time, the traditional way of shopping is quite hectic and time-consuming. In comparison, online shopping is efficient and time-saving. It is beneficial for those who are busy and have not much time to visit the market for shopping. Online shopping has gained popularity among the masses not only in developed but also in developing nations (Cao et al., 2018). The tendency of online trading in developing countries like Pakistan is increasing with the passage of time. In Pakistan, people have been using E-commerce for many years, and it is gaining attraction with significant growth (Tesarovar et al., 2020). Almost 45 million people are using the internet for their shopping. Out of the total, 82 percent of internet users were from urban areas. The Internet serves not only as a marketing platform for many companies, but also as a source of information and shopping for consumers making purchase decisions (Cherenkov et al., 2020). Such a rapid growth of online shopping has prompted the researcher to examine the factors that

motivate consumers' behavior towards online shopping.

Several factors are affecting consumers' behavior towards online shopping in different parts of the world. Available products and services are the basic factor that affects consumer behavior and willingness to pay for buying online (Davidaviciene et al., 2021). Customers can get all types of goods, like branded or non-branded, national or international, from all over the world. Most group of companies have their own websites to propose modern and trendy products for customers, whether they have visible shops or not (Davidaviciene et al., 2019). Online Consumers can decide which payment method to be has paid, and Customers can just add products to the cart and the product will be shipped to their home (Davidaviciene et al., 2021). Previous research had studied the behavior of consumers across Pakistan as a whole regarding online shopping. However, people belonging to different cities demonstrate different cultural values and characteristics. Convenience is a factor that impacts the buying behavior of consumers, and a person will be able to achieve something without any complication (Rausser et al., 2018). Variety refers to that an online store offers a broader choice of goods than traditional stores (Stefko et al., 2019). Customization refers to the methods by which a specific website is personalized to its clients (Strielkowski et al., 2020). Available products and services are the basic factor that affects the consumer behavior and willingness to pay for buying online and services (Andryeyeva et al., 2021) are the basic factors of online shopping. Many researchers deal with these factors separately rather than collectively. This study will include all these factors and all other possible factors, such as lack of technical knowledge, time required for delivery, and consumer satisfaction, and these factors that affect consumers' behavior towards online shopping using the principal component analysis technique. Thus, this research will target the region of Faisalabad in order to evaluate the consumer behavior of individuals pertaining to online shopping. E-marketing is the method that the organization uses in the latest communication method to connect dormant markets into authentic markets. It is a very vital part of the overall business plan, and it is also a classification of marketing policies to realize the marketing strategies that depend on the internet. Now, in every phase of marketing, we use the internet for buying things, for selling, and for providing facilities. Whether there is a new industry or an existing one, e-marketing depends on modern internet technologies, and its purpose is to meet the consumer's requirements and make new marketing policies for earning effective profit. The e-marketing trend is increasing quickly, and it will influence consumer enhancement and business development which resulting in sustainable business growth. E-business and E-trade is a more wide-ranging degree than e-advertising. Shopping orientations are associated with the general tendency towards shopping acts. This tendency might be exhibited in varied methods like info search, alternative judgment, and the selection of a product. Shopping orientations are a certain part of living style and are functionalized by a number of actions, concerns, and viewpoint narratives which are relative to the shopping acts. Because of the development in online shopping operations, consumers' online shopping conduct might be unique with respect to the shopping orientations they possess. Shopping orientation is a substantial indicator of shopping online. As per relative study amongst online-shopping orientation and shopping orientation, seven kinds of shopping orientation were identified, for instance, in-home buyers who enjoy shopping at home, economic buyers who visit shops at different places before making buying decisions, mall shoppers elected to do shopping at malls, personalized shoppers loved to do shopping somewhere if they know the sales-people, ethical shoppers preferred to do shopping at local stores for encouraging the local public, leisure shoppers put a supremacy on ease while shopping, and enthusiastic shoppers enjoy to shop. As per the conclusion of the research, it revealed that consumers who have a preference for conventional in-home shopping, for example, by email orders through catalogs, are inclined to express extraordinary aspiration for online shopping; however, people with mall shopping preferences are inclined to possess little intention for online shopping.

These are the specific objectives of this study.

1. To study the socio-economic characteristics of the respondents.
2. To analyze factors affecting consumer behavior related to online shopping in the study area.
3. To suggest appropriate policy options for the concerned stakeholders on the basis of the results of the study.

Methodology

Primary data are collected during this study. Showing primary research is a suitable ability to obtain, as it can significantly complement the research. To analyze the socio-economic status of online shoppers, frequency and percentage analyses have been conducted. In these methods of data analysis, the study employed maps, graphs, percentages, frequencies, means, and standard deviations with appropriate statistical tests in the process of examining and describing value chains, market performance, and households' characteristics.
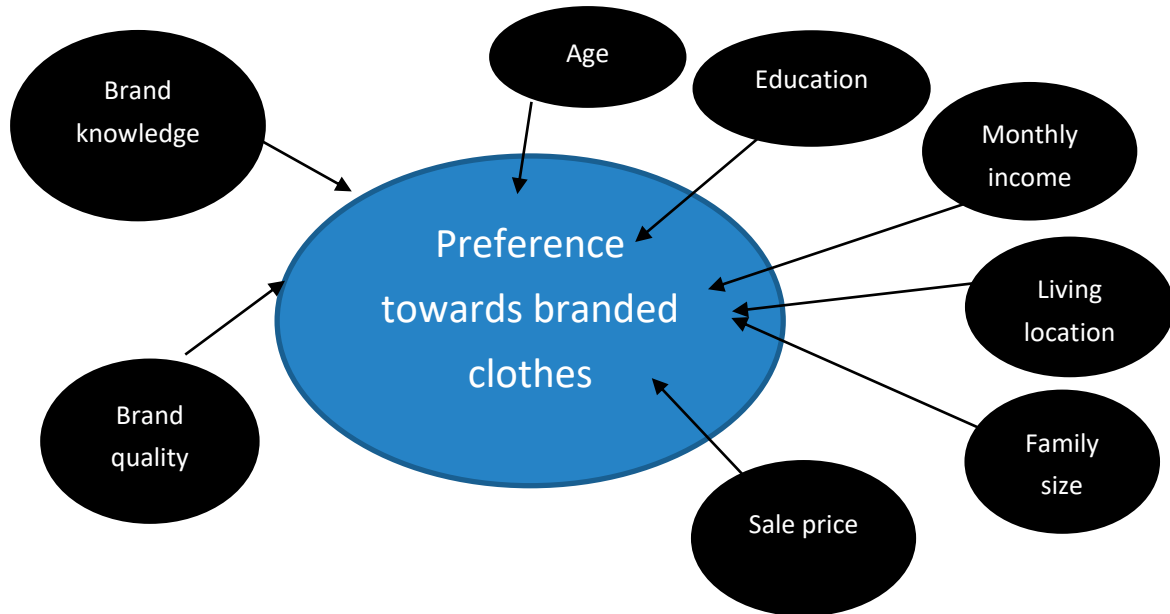

Figure. Theoretical model.

In order to study the factors affecting online shopping behavior and purchasing decisions of consumers, the principal component analysis has been employed.

Principal Component Analysis

Principal component analysis (PCA) is a way of squeezing a lot of data into something that captures the spirit of the creative data. PCA is most frequently used to abbreviate the information contained in a large number of innovative variables into a smaller set of new compound extents, with the smallest loss of data. Naturally, it is used as a transitional step in data analysis when the number of input variables is otherwise also large for valuable analysis. This is determined in the method that first principal component analysis (PCA) provides the highest conceivable variance, and every subsequent component has the highest variance under constraints that it is orthogonal to the preceding components.

Kaiser-Meyer-Olkin (KMO) Test measures how suited your data is for Factor Analysis. The test measures the sampling adequacy of each variable in the model and for the complete model. The statistic is a measure of the proportion of variance among variables that might be common variance. The lower the proportion, the more suited your data is to Factor Analysis. KMO values between 0.8 and 1 indicate the sampling is adequate. KMO values less than 0.6 indicate that sampling is not adequate and that remedial action should be taken. Some authors put this value at 0.5, so use your own judgment for values between 0.5 and 0.6.

KMO values close to zero mean that there are large partial correlations compared to the sum of correlations. In other words, there are widespread correlations that are a large problem for factor analysis.

For reference, Kaiser put the following values on the results:

0.00 to 0.49 unacceptable, 0.50 to 0.59 miserable, 0.60 to 0.69 mediocre, 0.70 to 0.79 middling, 0.80 to 0.89 meritorious, 0.90 to 1.00 marvelous.

Running the Kaiser-Meyer-Olkin (KMO) Test

$$KMO_j = \frac{\sum_{i \neq j} r_{ij}^2}{\sum_{i \neq j} r_{ij}^2 + \sum_{i \neq j} u}$$

(1)

Whereas,

R = [r_{ij}] is the correlation matrix and

U = [u_{ij}] is the partial covariance matrix

Results and Discussions

This part discusses and interprets the study's empirical findings, initially emphasising the socioeconomic features of the respondents, which are crucial for comprehending the dynamics of gendered time usage, economic determinants, and nutritional consequences. Descriptive statistics are employed to underscore significant demographic and economic characteristics, such as age, education, household size, income levels, and land ownership trends. These traits are the basis for the analytical steps that follow. The conversation then turns to the findings of the Principal Component Analysis (PCA), which was used to simplify the data and find the most important elements that affect time management and nutrition-related variables. This part seeks to deliver a thorough analysis of the links identified in the study by integrating descriptive insights with statistical models, so connecting them to broader theoretical and policy implications.

Socioeconomic Characteristics of Respondents

Understanding the socioeconomic characteristics of respondents is essential for interpreting variations in consumer behavior and decision-making patterns. In this study, respondents' demographic profiles were examined in terms of gender, age, housing status, residential location, profession, and marital status. These variables provide an important backdrop for assessing patterns of engagement with the subject under study.

The role of gender is as important as being the decisive and rational one in society. Gender plays a vital role in the family decision-making process in rural areas. On the basis of gender, respondents were divided into two categories: one category is female and the second is male. Table 1 shows that there were 58.3%% female and 41.7% male respondents in the present study. The main reason behind including a greater number of females in the study was show interest in online shopping. That's why female respondents were included in larger numbers than male respondents.

Age is the most significant socio-economic characteristic. On the basis of age, respondents were divided into four classes. In below table first class of age is between 16-27, and in this total number of respondents was 169 (73.5 %), and second class of age was between 28-39 and in this category total number of respondents was 52 (22.6%), and third class of age was between 40-51, in this total number of respondents was 6 (2.6), and in last category having more than 51 years its total number of respondents was 3 (1.3). So, the majority of the respondents lie in the first category.

The house status of the respondents was classified into two categories. 70.9% people live in their own houses that shown in the first category, and in the second category, 25.7% people live in rented houses. And results show that the majority of people who were interested in online shopping lived in their own houses. The table shows that 11.7% of the people who answered the question resided in rural areas, 87% lived in urban areas, and 1.3% lived in semi-urban areas. The results showed that individuals in cities are significantly more aware of internet purchasing. This is why people in these locations are more interested in and worried about it.

The table showed that a total 230 respondents who interested in online shopping according to their profession. 43 percent are students, 6.1 percent are skilled laborers, 33.5 percent of respondents are in private jobs and 4.8 percent are in government job, while 4.8 percent of respondents have their own business and 7.8 percent are busy in other professions. The purpose of this division of the respondents to do a comparison of their demographic traits and quality of life.

Table 3.1 shows the results of the respondents' marital status. The inquiry sought to ascertain the marital status

of the respondents. The results showed that 51.3% of the people were single, 47% were married, and 1.7% were divorced. The data showed that most of the people who answered were single. The next most common answer was married, and there were relatively few divorced people who answered. The research demonstrated that single respondents had the greatest interest in online purchasing, positioning them as the predominant group across all categories.

Table 1. Socioeconomic characteristics of respondents.

Gender	Frequency	Percent
Female	134	58.3
Male	96	41.7
Age categories (years)		
16-27	169	73.5
28-39	52	22.6
40-51	6	2.6
above 51	3	1.3
House status		
Owned	163	70.9
Rented	59	25.7
Other	8	3.5
Family type		
Joint	42	18.3
Nuclear	182	79.1
Other	6	2.6
Family type		
Rural	27	11.7
Urban	200	87.0
semi urban	3	1.3
Profession		
Student	99	43.0
skilled labor	14	6.1
private job	77	33.5
Govt job	11	4.8
own business	11	4.8
Other	18	7.8
Marital status		
Single	118	51.3
Married	108	47.0
Divorce	4	1.7
Total	230	100.0

Table 2 shows the preferences of respondents regarding online shopping. Out of a total of 230 respondents, 81.7 percent preferred online shopping, while 18.3 percent did not. These results indicate that the majority of people preferred to shop online.

Table 2. Respondents' preference for online shopping.

Online shopping preference	Frequency	Percent
Yes	188	81.7
No	42	18.3
Total	230	100.0

Table 3 shows the frequency with which consumers preferred online shopping, divided into three categories. In the first category, 141 respondents (61.3%) reported shopping online 1–15 times in a month. In the second category, 57 respondents (24.8%) preferred shopping online 16–25 times, while in the third category, 32 respondents (13.9%) reported shopping online more than 25 times. These results indicate that the majority of consumers preferred online shopping 1–15 times per month.

Table 3. How often respondents prefer online shopping.

How many times preferred	Frequency	Percent
1-15 times in a month	141	61.3
1-25 times in a year	57	24.8
Never	32	13.9
Total	230	100.0

Table 4 presents the types of items consumers preferred to purchase, divided into five categories. The first group, clothes, was the most common, with 125 respondents (54.3%) indicating this preference. Shoes and bags were selected by 21 respondents (9.1%), while home apparel was also chosen by 21 respondents (9.1%). Cosmetics were preferred by 43 respondents (18.7%), and 20 respondents (8.7%) reported purchasing other items. These results indicate that the majority of consumers preferred to purchase clothes.

Table 4. Types of items purchased by respondents.

Types of Items	Frequency	Percent
Clothes	125	54.3
Shoes/bags	21	9.1
Home apparel	21	9.1
Cosmetics	43	18.7
Other	20	8.7
Total	230	100.0

Table 5 shows the sources used by respondents for gathering information, categorized into five groups. In the first category, 83 respondents (36.1%) reported using search engines such as Google/Yahoo. In the second category, 35 respondents (15.2%) relied on product catalogs, while 67 respondents (29.1%) gathered information from friends and family. In the fourth category, 33 respondents (14.3%) used advertisements, and in the last category, 12 respondents (5.2%) mentioned other sources. These findings suggest that the majority of people who answered preferred search engines (Google/Yahoo) as their primary source of information.

Table 5. Respondents' distribution according to information sources.

Sources of gathering information	Frequency	Percent
Search engines e.g., Google/yahoo	83	36.1
Products catalogs	35	15.2
Friends and family	67	29.1
Advertisement	33	14.3
Others	12	5.2
Total	230	100.0

Table 6 of this document indicates the frequency of online shopping among respondents, divided into five categories. In the first category, 61 respondents (26.5%) reported shopping online frequently, while 23 respondents (10.0%) shopped online regularly. A proportion of respondents reported shopping rarely, whereas the largest group indicated that they shop online only according to need. A small number of respondents stated that they do not purchase anything online. These results suggest that the majority of people prefer to engage in online shopping only when it is necessary.

Table 6. How often respondents shop online.

How often do you shop online	Frequency	Percent
Frequently	61	26.5
Regularly	23	10.0
Rarely	51	22.2
according to need	74	32.2
Nothing	21	9.1
Total	230	100.0

Table 7 presents the distribution of respondents according to their selected mode of payment, categorized into

five groups. In the first group, 34 respondents (14.8%) used credit cards, while 29 respondents (12.6%) preferred debit cards. A smaller proportion, 9 respondents (3.9%), relied on net banking, whereas the majority, 152 respondents (66.1%), opted for cash on delivery. Finally, 6 respondents (2.6%) reported using other payment methods. These results indicate that cash on delivery was the most commonly preferred mode of payment among respondents.

Table 7. Distribution of respondents by preferred mode of payment.

Payment mode	Frequency	Percent
credit card	34	14.8
debit card	29	12.6
net banking	9	3.9
cash on delivery	152	66.1
Other	6	2.6
Total	230	100.0

Table 8 shows the distance from respondents' houses to the industrial area, classified into two categories. In the first category (1–15 km), the frequency was 187 (81.3%), while in the second category (16–30 km), the frequency was 43 (18.7%). These results indicate that the majority of respondents were located within 1–15 km of the industrial area.

Table 8. Distribution of respondents' distance from house to industrial area.

Distance	Frequency	Percent
1-15 km	187	81.3
16-30 km	43	18.7
Total	230	100.0

Table 9 illustrates the distribution of respondents based on their distance from the input–output market. A majority of respondents (81.3 percent) were located within 1–15 km of the market, while 18.7 percent resided 16–20 km away. This indicates that most households have relatively easy access to input–output markets, which may support their participation in agricultural activities and improve access to essential goods and services.

Table 9. Distribution of respondents' distance from the input-output market.

Distance	Frequency	Percent
1-15 km	187	81.3
16-20 km	43	18.7
Total	230	100.0

To investigate the determinants influencing customers' online shopping behavior, a constraints analysis has been utilized.

Table 10. KMO and Bartlett's test for constraints faced by the consumers.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.720
	Approx. Chi-Square	3008.769
Bartlett's Test of Sphericity	df	406
	Sig.	.000

The results of the Kaiser-Meyer-Olkin (KMO test) measure of sampling adequacy (KMO=0.720) Table shows the results of the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity, which were applied to evaluate the suitability of the dataset for factor analysis. The KMO value was 0.720, which, according to Kaiser's (1974) classification, falls within the 'middling to good' range, suggesting that the sample size and patterns of correlations are adequate for factor analysis. Also, Bartlett's Test of Sphericity gave a Chi-square value of 3008.769 with 406 degrees of freedom and a significance level of 0.000 ($p < 0.05$). The highly significant result of Bartlett's test indicates that the correlation matrix is not an identity matrix and that sufficient correlations exist among the variables to justify the application of factor analysis. Overall, these results confirm that the dataset is suitable for conducting factor analysis.

Figure 2. Scree plot of components and eigenvalues.

The scree plot presented in Figure 2 displays the eigenvalues associated with each component extracted during the principal component analysis (PCA) are reported. As shown, the first component has a markedly higher eigenvalue (above 8), indicating it explains the greatest proportion of variance in the dataset. The second component shows a sharp decline with an eigenvalue of approximately 2.5, followed by a gradual decrease across the subsequent components. After the sixth component, the eigenvalues begin to level off and remain close to or below 1, forming an "elbow" shape in the plot.

According to the Kaiser criterion (eigenvalues > 1), approximately six components can be considered significant for further analysis. Additionally, the point of inflection (elbow) in the scree plot also supports the retention of around five to six components, as these account for most of the variance before the curve flattens.

Table 11. Critical success factors and barriers to KM implementations.

S.No	Components	Factor loading	Constraints
1	Online browsing and easy accessibility	.809	Website design one of the important factor motivating consumers for online shopping
		.674	Can find product that are not available in the store
		.599	Shopping at any time
		.453	No crowd
		.425	Inclinations towards trying something new
2	Convenience	.812	Ease of finding products
		.882	Less effort
		.705	Known or famous brand names
3	Time saving and accurate products information	.678	The way the website is set up makes it easier for me to choose the proper items when I purchase online.
		.736	Time saving can eliminate the travelling time required to go to the traditional store
		.641	I feel that it takes less time in evaluating and selecting a product while shopping online
		.435	Safe and secure transaction of money and credit card information increases trust and decreases transaction risk
4	Security and familiarity with the products	.805	I feel safe and secure while shopping online
		.736	Online shopping takes less time to purchase
		.441	I feel that familiarity with the website before making actual purchase reduce the risk of shopping online
5	Finding products easily	.727	Ease of finding products
		.699	No need to deal with sale peoples

		.914	Shopping on interneto saves time
6	Trusted websites and delivery assurance services	.825	Ease of comparison
		.592	Online shops are best for discrete purchase for things like personal hygiene
		.590	Assurance of on time delivery
		.388	I prefer to buy from website that provides me with quality of information
		.926	Ease of product return and money refund
7	Sale factor	.620	Offer/discount prices
		.654	While shopping online, website design helps me in searching the products easily
8	Accessibility of sending different accessories	.803	Online security or trust is one of the most critical issues that affect the success or failure of online retailers
		.811	You can send gifts more easily
9	Description	.796	The description of product shown on the website are very accurate
		.601	I like to shop online from a trustworthy website

Table 11 presents the critical success factors and barriers to knowledge management (KM) implementations in the context of online shopping, identified through factor analysis. The results highlight nine key components along with their respective factor loadings and associated constraints. The first component, online browsing and easy accessibility (0.425–0.809), reflects the importance of website design, product availability beyond physical stores, 24/7 shopping convenience, avoidance of crowds, and consumer curiosity toward new experiences. The second component, convenience (0.705–0.882), emphasizes ease of finding products, reduced effort, and reliance on reputable brands. The third component, time saving and accurate product information (0.435–0.736), indicates that website layout, efficiency in product evaluation and selection, and secure transactions contribute to trust and effective decision-making. The fourth component, security and familiarity with products (0.441–0.805), suggests that a sense of safety, faster purchase processes, and prior familiarity with websites reduce perceived risks. The fifth component, finding products easily (0.699–0.914), highlights the ease of product searches, independence from salespeople, and time-saving benefits. The sixth component, trusted websites and delivery assurance services (0.388–0.926), underscores the role of product comparison, discreet purchases, timely delivery, quality of information, and return/refund policies in building confidence. The seventh component, sale factor (0.620–0.654), reflects the influence of discounts, offers, and website design in supporting product searches. The eighth component, accessibility of sending different accessories (0.803–0.811), highlights that online security and the ease of sending gifts enhance consumer satisfaction. The ninth component, description (0.601–0.796), stresses the accuracy of product descriptions and trustworthiness of websites as important determinants of consumer preference.

The first component, online browsing and easy accessibility, highlights consumers' inclination toward convenience and interactive platforms. This finding is consistent with Rahman et al. (2018), who emphasized that website design and user-friendly interfaces enhance online purchase intention. Similarly, Yu et al. (2018) demonstrated that hedonic and utilitarian motivations, such as 24/7 accessibility and avoidance of physical store crowds, significantly influence consumers' adoption of online shopping. The second and third components, representing convenience, time saving, and accurate product information, align with Simionescu (2017), who observed that consumers prioritize effort reduction, time efficiency, and product evaluation opportunities in their online shopping decisions. The present results further emphasize that high-quality product information and secure transaction systems are critical to fostering consumer trust, echoing the conclusions of Dong and Gleim (2018). The fourth and fifth components, namely security, familiarity, and ease of product search, reaffirm previous concerns highlighted by Grewal et al. (2017), who identified security risks and search-related challenges as barriers to e-commerce adoption. The findings of this study confirm that

trust in secure platforms and the ability to independently locate products contribute substantially to building consumer confidence in online shopping.

The sixth component, reflecting trusted websites and delivery assurance services, supports the work of Imai (2019), who emphasized that delivery performance, return policies, and reliability of information are vital to customer satisfaction and loyalty. These results add nuance by showing that timely delivery and discreet services play a decisive role in enhancing consumer confidence in digital marketplaces. The seventh and eighth components, relating to sales factors and accessibility for gifting or accessories, underscore the motivational impact of promotional activities and the emotional value of online gifting. These insights are consistent with Nassar and Tvaronaviciene (2021), who found that discounts, promotional strategies, and unique service attributes increase customer engagement and strengthen long-term relationships with e-commerce platforms.

Finally, the ninth component, accurate product descriptions, resonates with the findings of Park and Kahn (2017), who reported that comprehensive, detailed, and trustworthy product information significantly enhances consumer trust and decision-making in online purchasing.

Overall, these findings indicate that online shopping success is shaped by a combination of accessibility, convenience, time efficiency, trust, security, website design, delivery services, promotions, and accurate product information, while barriers such as security concerns, delivery assurance, and inadequate information quality remain critical challenges to address for enhancing consumer trust and ensuring sustainable adoption of online shopping.

Conclusions and Recommendations

The study examined the socioeconomic characteristics, preferences, and behavioral patterns of consumers toward online shopping, followed by a factor analysis to identify key determinants influencing their choices. Descriptive results revealed that the majority of respondents were young (73.5% aged 16–27), female (58.3%), and urban residents (87%), with most living in their own homes (70.9%) and belonging to nuclear families (79.1%). Students (43%) and private-sector employees (33.5%) represented the largest professional groups, while single individuals (51.3%) dominated the sample. In terms of shopping behavior, 81.7% of respondents preferred online shopping, with most purchasing between 1–15 times per month. Clothes were the most commonly bought items (54.3%), followed by cosmetics (18.7%). Search engines (36.1%) and friends/family (29.1%) were the main sources of information, while cash on delivery (66.1%) was the overwhelmingly preferred payment mode. Most respondents shopped online according to need (32.2%) or occasionally, highlighting selective engagement rather than habitual dependence. Factor analysis (KMO = 0.720; Bartlett's test significant at $p < 0.05$) validated the dataset's suitability, and Principal Component Analysis (PCA) extracted nine components shaping online shopping behavior. These included: (1) online browsing and accessibility, (2) convenience, (3) time-saving and accurate product information, (4) security and familiarity, (5) ease of finding products, (6) trusted websites and delivery assurance, (7) promotional offers, (8) accessibility for gifting and accessories, and (9) accuracy of product descriptions. The scree plot confirmed six dominant components as explaining the majority of variance. Overall, the results highlight that online shopping adoption is driven primarily by accessibility, convenience, time efficiency, and trust, while barriers such as security concerns, delivery assurance, and inadequate information quality remain significant challenges. These findings provide both theoretical insights into consumer decision-making and practical implications for enhancing the effectiveness and sustainability of online retail platforms.

This research examined the determinants influencing customer behavior about internet buying. Several factors can influence customer online activity, including financial risk, product risk, convenience, non-delivery risk, return policy, damaged goods, and product quality. The effect of these and other factors on customer behavior about internet buying will be evaluated. This study utilized random sampling to obtain about 230 respondents. A well-structured questionnaire was developed to gather data. We used constraint analysis to figure out what characteristics affect how people shop online in the research area. Factor component analytical technique was used to address the study objectives. The value of KMO above 0.50 showed that the sampling

is suitable for factor analysis. Now the projected KMO statistic is 0.720, which shows that the use of factor analysis is adequate. The analysis also shows, it is clear that the majority of females do online shopping as compared to male. And the major preference of the females should be branded clothes. Because they only want to buy clothes from a trustworthy website. Online browsing is the major factor that affects online shopping. Convenience is the second major factor that affects online shopping due to the ease of finding products and less effort. The third major factor that affects online shopping is time saving, because it can reduce the travelling time when a person does not go to a traditional store. The fourth major factor is security risk, which affects online shopping because a person feels safe and secure to doing online shopping. Finding products easily is the fifth major factor that affects online shopping. And the sixth major factor that affects online shopping is trusted websites, because when a person trusts websites, then he or she can purchase anything without any difficulty. The seventh important factor is the sale factor because the sale factor is the benefit of low-income or middle-class families to buy branded clothes. Accessibility of sending different products to others is the eighth component that affects online shopping. And the last and ninth factor is description, which affects online shopping because the description of the products shown on the website is very accurate.

References

Andryeyeva, N., Nikishyna, O., Burkynskyi, B., Khumarova, N., Laiko, O., & Tiutiunnyk, H. (2021). Methodology of analysis of the influence of the economic policy of the state on the environment. Insights into Regional Development, 3(2), 198-212.

Cao, Y., Ajjan, H., & Hong, P. (2018). Post-purchase shipping and customer service experiences in online shopping and their impact on customer satisfaction: An empirical study with comparison. Asia Pacific Journal of Marketing and Logistics, 30(2), 400-416.

Cherenkov, V., Sheresheva, M., Starov, S., Gladkikh, I., Tanichev, A., Berezka, S., & Yussuf, A. (2020). Sustainability trends and consumer perceived risks towards private labels. Entrepreneurship and Sustainability Issues, 8(1), 347.

Darsono, J. T., Susana, E., Prihantono, E. Y., & Eley, S. K. (2019). Strategic policies for small and medium businesses in marketing through e-commerce. Entrepreneurship and Sustainability Issues, 7(2), 1230.

Davidaviciene, V., Raudeliūnienė, J., & Viršilaitė, R. (2021). Evaluation of user experience in augmented reality mobile applications. Journal of business economics and management, 22(2), 467-481.

Davidaviciene, V., Raudeliuniene, J., Tvaronaviciene, M., & KauSinis, J. (2019). The importance of security aspects in consumer preferences in electronic environment. *Journal of Security & Sustainability Issues*, *8*, 3.

Dong, R., & Gleim, M. R. (2018). High or low: The impact of brand logo location on consumers product perceptions. Food Quality and Preference, 69, 28-35.

Grewal, D., Roggeveen, A. L., & Nordfält, J. (2017). The future of retailing. Journal of retailing, 93(1), 1-6.

Imai, T., Kang, M. J., & Camerer, C. F. (2019). When the eyes say buy: visual fixations during hypothetical consumer choice improve prediction of actual purchases. Journal of the Economic Science Association, 5(1), 112-122.

Javaria, K., Masood, O., & Garcia, F. (2020). Strategies to manage the risks faced by consumers in developing e-commerce. Insights into Regional Development, 2(4), 774-783.

Kahn, B. E. (2017). Using Visual Design to Improve Customer Perceptions of Online Assortments 1. In The Routledge Companion to Consumer Behavior (pp. 304-327). Routledge.

Nassar, N. (2021). A systematic theoretical review on sustainable management for green competitiveness. *Insights into Regional Development*, *3*(2), 267-281.

Rahman, M. A., Islam, M. A., Esha, B. H., Sultana, N., & Chakravorty, S. (2018). Consumer buying behavior

towards online shopping: An empirical study on Dhaka city, Bangladesh. Cogent Business & Management, 5(1), 1514940.

Rausser, G., Strielkowski, W., & Štreimikienė, D. (2018). Smart meters and household electricity consumption: A case study in Ireland. Energy & Environment, 29(1), 131-146.

Simionescu, M. (2017). Brand loyalty and fashion marketing: a case study of Romanian youth. Маркетинг і менеджмент інновацій, (1), 25-31.

Stefko, R., Bacík, R., Fedorko, R., Oleárová, M., & Rigelský, M. (2019). Analysis of consumer preferences related to the use of digital devices in the e-commerce dimension. Entrepreneurship and Sustainability Issues, 7(1), 25

Strielkowski, W., Veinbender, T., Tvaronavičienė, M., & Lace, N. (2020). Economic efficiency and energy security of smart cities. Economic research-Ekonomska istraživanja, 33(1), 788-803.

Tesarovar, M., Krmela, A., & Simberova, I. (2020). Digital support to external sustainability communication in self-adhesive labelling industry. Entrepreneurship and Sustainability Issues, 7(3), 2109.

Yu, L., Westland, S., Li, Z., Pan, Q., Shin, M. J., & Won, S. (2018). The role of individual colour preferences in consumer purchase decisions. Color Research & Application, 43(2), 258-267.