Finding the Social Media Influencing Factors and Their Correlations: A Case Study on Online Shoppers in Bangladesh

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Abstract

For a very long time, e-commerce has been altering the global retail landscape. Global pandemic outbreak forces individuals to become more reliant on technology, which increases online business opportunities. Social media's growing range of applications has an effect on how consumers behave while making purchases. This study's main goal is to uncover the social media influencing elements that customers use to decide whether or not to make an online purchase and to determine how these factors are correlated. This study employed interviews with 35 consumers, ranging in age from 18 to 40, who made a variety of online purchases, from regularly to infrequently, to determine its goal.Customer review, word of mouth, trust, ease of service, push to buy, influencers, price, cost of service, trend, offers, product variation and brand values are the identified as the main factors. This study will aid companies or people with similar interests in making business decisions, particularly when developing a plan for digital marketing.

Keywords
social media, purchase decision, online shopping, marketers and digital marketing.

1. Introduction
Social media is the communication & networking method to share information, ideas creativity & many others. This is a networking system providing services and is mostly used nowadays. Online business is a new sensation in the world. Online business is an internet dependent virtual shopping method that can be used in case of service, products, etc. In the wake of Covid-19, the world is turning toward online business (Ara Eti et al., 2021). Even retail is trying to concentrate on online business for the moment. But in the race to move toward the online, Bangladesh lacks the most prominent outcome of online business. The use of social media is prominent now a days with increasing connectivity of the world. Around 3.5 billion people are on social media daily. From the perspective of Bangladesh, the percentage of users using social media on mobile and especially Facebook is about 95.05% (al Amin et al. 2020). By using social media, the business authority can create channels with potential clients or entice more consumers to buy the product. So, the impact of social media has changed the online business world in an extraordinary situation. Online business is greatly affected by social media. In online business, social media is one of the most significant sources of connectivity with customers. Social media affects the purchase decision of the customers. Purchase decision is defined as the decision-making process for the customers while buying a product. In the world, businesses are expanding & showing an overwhelming effect of social media in their growth. According to 91% of expert social marketers, social media has a notable impact on their website business. Social Media leads people to their products by creating traffic. Social media helps by leading generation, a healthy relationship between the consumer and the marketers. The adaptation of social media will enhance the future upgrading of online business at its' level best. The proper operation of the social media collaboration with the online business can be a straightforward indication for the international business for finding their target consumers (Hajli 2014). In Bangladesh, online business is desirable for the youth and most importantly ages below 35. The reason behind the attention to online buying in this age range is the availability of products, less time-consuming yet more options. On the other hand, if a deep dive is taken into the online business industry of Bangladesh is already in a growth phase. It is predicted that by 2025, e-commerce will generate 22,000 crores. The growth has increased to 25 percent since

2015, then again to 70 percent by 2020. Then in 2021, it has fallen to 40%. That is a bit unusual when the world is rising with an online business.

1.1 Objectives
This research emphasizes two viewpoints. First and foremost, the purpose of this study is to identify the variables that can encourage social media users to make an online purchase.

The correlations between the factors will be established after the factors are identified and demonstrated how one element is impacted by others. The correlation values will aid businesses in developing effective growth strategies.

2. Literature Review
Among the 7.7 billion of the world population, 3.5 billion people are available online. This means one in every three people in the world is using social media and more than two thirds of all internet users(Ortiz-Ospina 2019). The term social media refers to a variety of web-based and mobile services that allow users to engage in online discussions, contribute user-generated content, and join online communities. According to popularity, social network sites (Facebook, LinkedIn) and media sharing sites (YouTube, Instagram, Pinterest) stand at top of the positions. Nowadays both sites have common characteristics(Dewing 2012). For example, on Facebook, besides social networking, every user can share their media too.

Businesses have known for a few years that social networking is becoming increasingly important in marketing (Geho and Dangelo 2012). People are social creatures who gather and share information that is meaningful to them. Understanding how technology is making it simpler for people to engage socially with their social networks and how businesses can profit from that understanding is central to social media marketing. Because many users increasingly trust their peers' opinions more than marketing strategists, social networks are exceptionally capable of informing and influencing purchasing decisions. More than two thirds of users always think about social media networks while making a buying decision (Bashar and Wasiq 2012). As a result, social media sites have a significant impact on consumer decisions on purchases made(Devika et al. 2020).

Online marketplace or e-commerce sites started to emerge in 1995 with the establishment of Amazon. After that eBay joined the party. In 1998, the emergence of PayPal and the online payment system e-commerce business started to boom. In 1999 Alibaba was established (A Brief History of Online Shopping - ODM World, [s.d.]). Since then, e-commerce sites started to grow with the advancement of technology. Attitude toward online purchasing is significantly influenced by perceived benefits, and purchase intention is significantly influenced by attitude and domain-specific innovativeness (Hebbar et al. 2020). For their regular purchases, the young population frequently visited various internet retailers. Online shoppers' generation of knowledge or awareness is crucial to the development of online buying. When someone on their social networks mentioned enticing deals, discounts, and other advantages of online buying, others became interested in it. Additionally, internet retailers started offering review and rating features for specific goods that were displayed on their websites or mobile apps. Before making a final decision on an online purchase, buyers consult the reviews for information (Sharma 2021).

During the epidemic, the online shopping boom accelerates. Due to the rigorous lockdown in Bangladesh and the rest of the world, people have become more technologically savvy besides that awareness and experience have increased, which have increased the inclination for online purchasing since Covid-19 first began to spread over the globe (Gu et al. 2021). Social media and online shopping have a very deep connection. Social media sites are being used as marketing platforms to attract consumers to make purchases online.

With the development of analytics and other sophisticated measuring tools, business owners are discovering that they can now utilize data to improve their social media marketing efforts in addition to using social media as a marketing tool (Geho and Dangelo 2012). Social media is now more frequently used by consumers as a tool for product identification, information gathering, product evaluation, and product purchases (Mason et al., 2021). Social media use affects consumer satisfaction during the information-seeking and alternative-assessment phases of the buying process, with satisfaction increasing as the consumer advances to the ultimate purchase decision and post-purchase evaluation (Voramontri and Klieb 2019). Social marketers can successfully plan and conduct a social media campaign to increase their online sales by utilizing consumer orientation, behavior modification, market segmentation, and targeting, mixed approaches, exchange, and competition (Dooley et al. 2012).

3. Methods

In this study, the factors that drive people to make online purchases using social media were first identified, and then the relationship between the factors was determined. The total process of collecting the results is made up of a number of processes, including the formulation of the problem, reviews of the literatures, the gathering and preprocessing of the data, exploratory data analysis, and so forth.Figure 1 depicts each procedure in accordance with a flowchart.
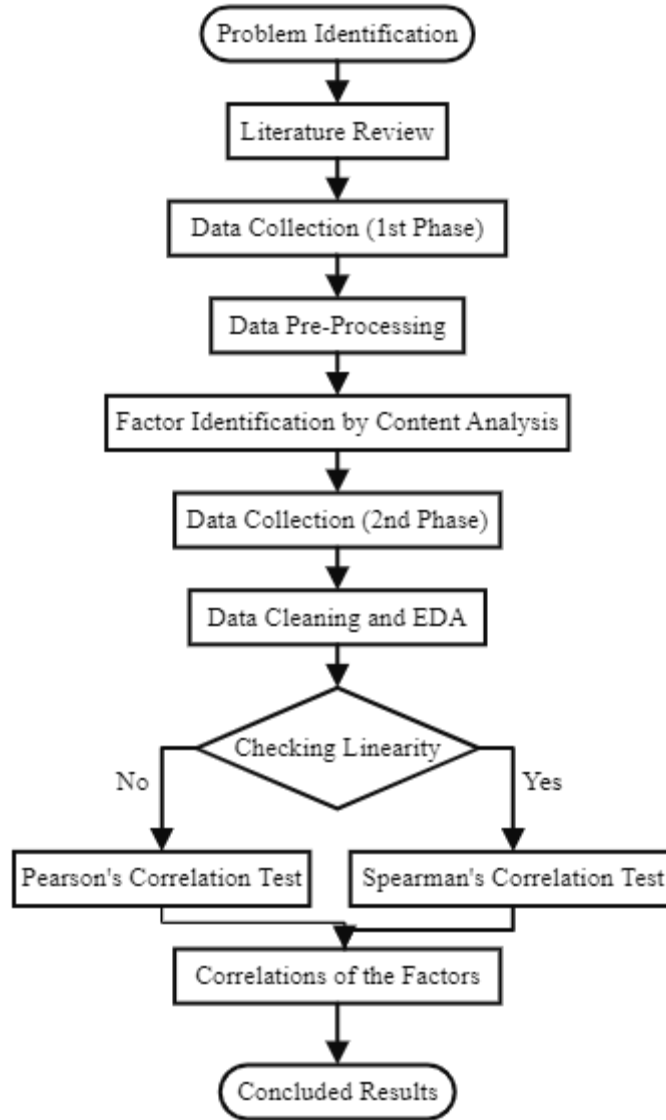

Figure 1. Process flow chart of the study

The process of content analysis was done through tagging pre-determined word and was counted through count vectorizer& bag of words technic using python programming. When qualitative data are employed, the technique is more advantageous. In this study, content analysis was used to identify the factors. To check validity of the interview and survey data Cronbach's alpha was measured.

$$\alpha = \frac{K}{(K-1)[1 - (\frac{S_y^2}{S_x^2})]}$$

After finding out the reliability of the data Kolmogorov Smirnov test (KS-test) was applied to check the representativity of the data where hypothesis was established according to the followings

H_0 = The data comes from the specified distribution.
H_a = At least one value does not match the specified distribution.

Then linearity of the data was checked. After that correlations of the factors were found out by using Pearson's Correlation test.

$$r = \frac{\sum(x_i - \underline{x})(y_i - \underline{y})}{\sqrt{\sum(x_i - \underline{x})^2 \sum(y_i - \underline{y})^2}}$$

4. Data Collection

There are two steps to this investigation. Using first-hand information gathered from customers through written and verbal interviews, social media influencing elements were identified in the first step. Additionally, blogs, news stories, and earlier research findings were examined to identify the causes.After identifying the elements that influence social media users to make online purchases, a poll was conducted based on the variables. Participants were asked to rate the reasons on a scale of 1 to 10, with the lowest and highest scores indicating the degree of importance placed on each component. These data were used to determine the linear and non-linear relationships between the variables using the Pearson's Coefficient and Spearman's Coefficient tests.

5. Results and Discussion

Some tools and statistical analysis were completed once the data's validity and retrospectivity were verified. The following sub-topics provide descriptions of the excellent outcome.

5.1 Numerical Results

To assess the internal consistency of the survey data, Cronbach's Alpha was employed. The variance of each factor and the value of the liker chart were used to calculate the alpha value.The Cronbach's Alpha score for each of the 12 social media impacting elements was tallied and shown in Table 1. The alpha number explains the survey's consistency and reliability. The Cronbach's Alpha number 0.879 indicates that the survey paper's data is accurate and reliable. Values greater than 0.8 are trustworthy and have excellent internal consistency.

Table 1. Cronbach's alpha value for the variables

Number of factors	Cronbach's alpha value
12	0.879

In Table 2 demographic distribution of the respondents are shown. Both male and female consumers in the three main age groups of 18-23, 24-28, and 29+ participated in the survey and interview. Consumers in the gender category were split 79.52% male and 20.48% female. With 66.27% of all responses, the age group 18-23 years had the top ranking in this category. Following that, the age groups of 24-28 years had 25.30% of the responses, while 29 years and older had 8.43%.

Table 2. Demographic (age and gender) distribution of the respondents

Demographic Factors	Criteria	Percentage
	18-23	66.27%
Age	24-28	25.30%
	29+	8.43%

Gender	Male	79.52%
	Female	20.48%

Geographic distribution of respondents is shown in Table 3. The consumer's living environment may have a significant influence on their purchasing decisions. In this study, the majority of survey and interview participants reside in urban areas (49.40%), followed by metropolises (20.48%), megalopolis (15.66%), towns (10.84%), and villages (3.61%) of the total respondents.

Table 3.Geographic distribution of the respondents

Criteria	**Percentage**
Urban	49.40%
Metropolis	20.48%
Megalopolis	15.66%
Town	10.84%
Village	3.61%

5.2 Graphical Results

According to the information gathered from interviews, news stories, blogs, and research papers, a total of 12 factors directly affect customers' decisions to make online purchases on social media shown in Figure 2. The data reveals that when making an online purchase decision, most consumers pay close attention to previous customer reviews, word of mouth, and how much they can trust the platform. The consumer also pays attention to eight more elements in that order: convenience of service, pressure to buy, influencers, price of the good or service, cost of the good or service, market trend, offers, product variation, and brand value.
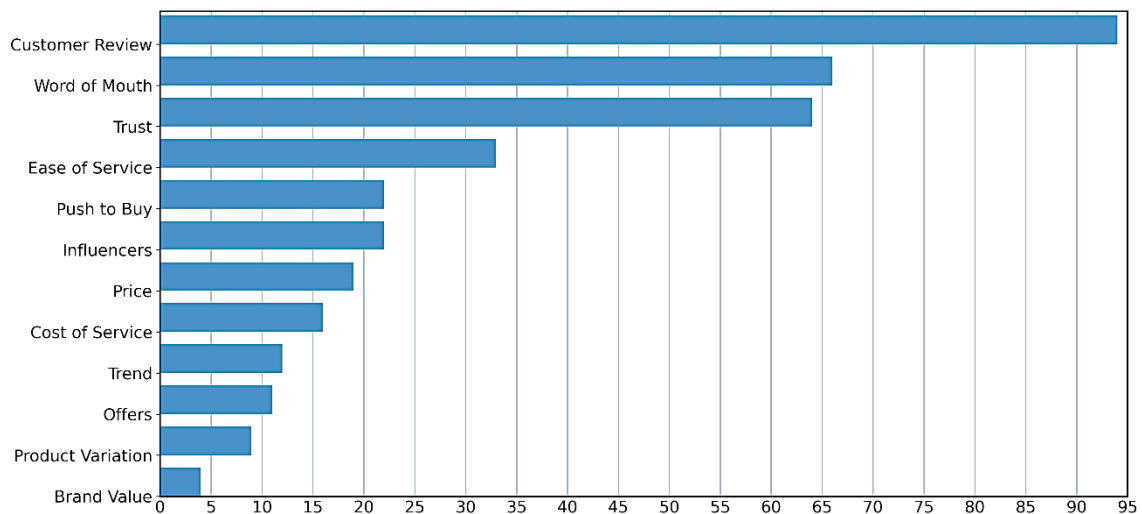

Figure 2.Social media influencing factors which motivates consumers to make online purchase

The correlations between the factors were determined with data collected from the second phase of data collection procedure. The representativity of the second phase data is important for finding the correlations. Through Kolmogorov Smirnov test (KS – test) following hypothesis was checked.

H_0 = There is no difference between the study population and sample

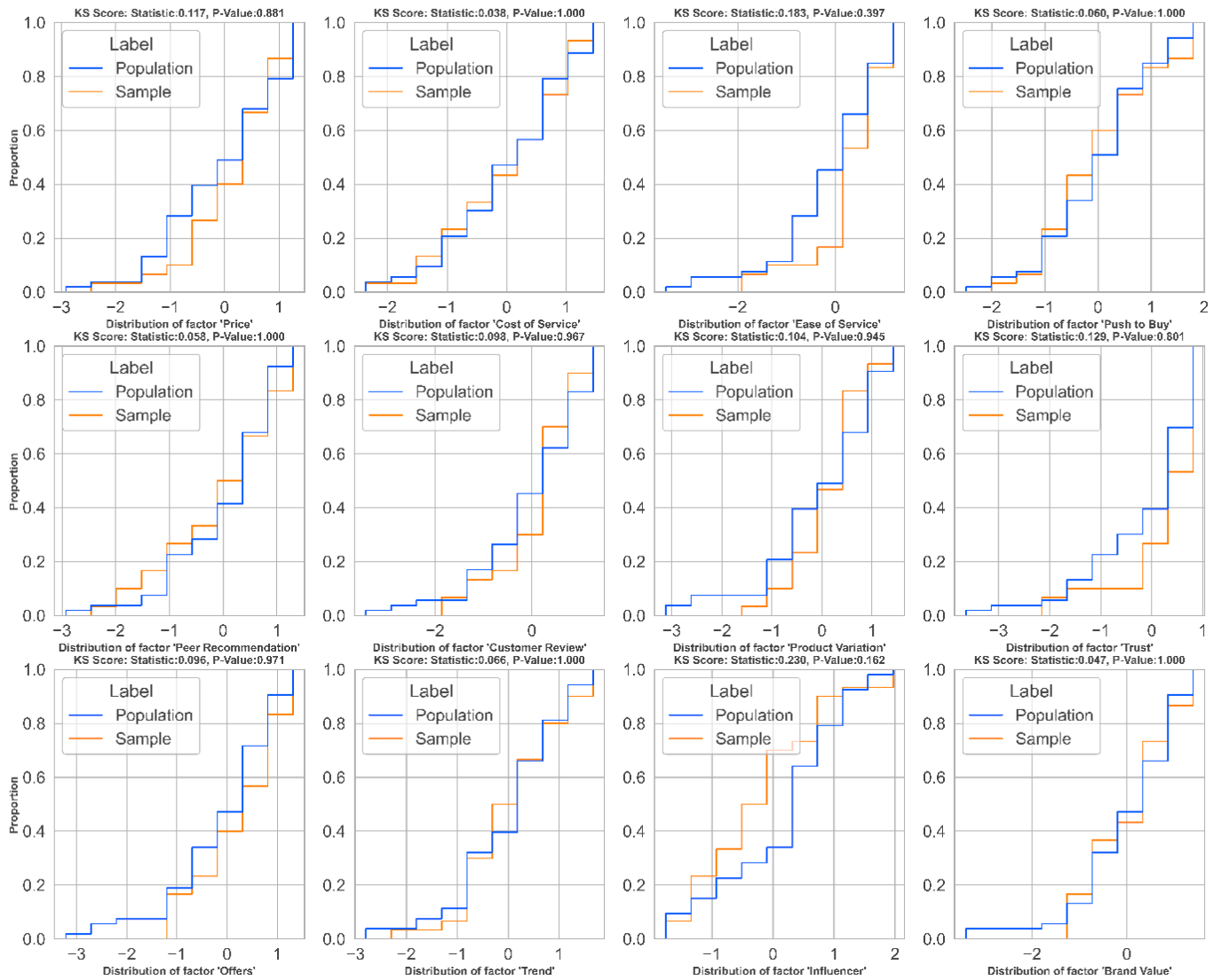H_a = There is a difference between study population and sample

Figure 3.KS – test statistics results of the factors

In KS hypothesis test illustrated in Figure 3 the p-value of factor price is 0.881 when cost of service 1.000, ease of service 0.397, push to buy 1.000, peer recommendation 1.000, customer review 0.967, product variation 0.945, trust 0.801, offers 0.971, trend 1.000, influencer 0.162, brand value 1.000. P – values of all the factors doesn't show enough evidence to reject the null hypothesis hence it can be said that 'There is no difference between the study population and sample'.

Before finding out the correlations of the factors it's important to check linearity of the data.
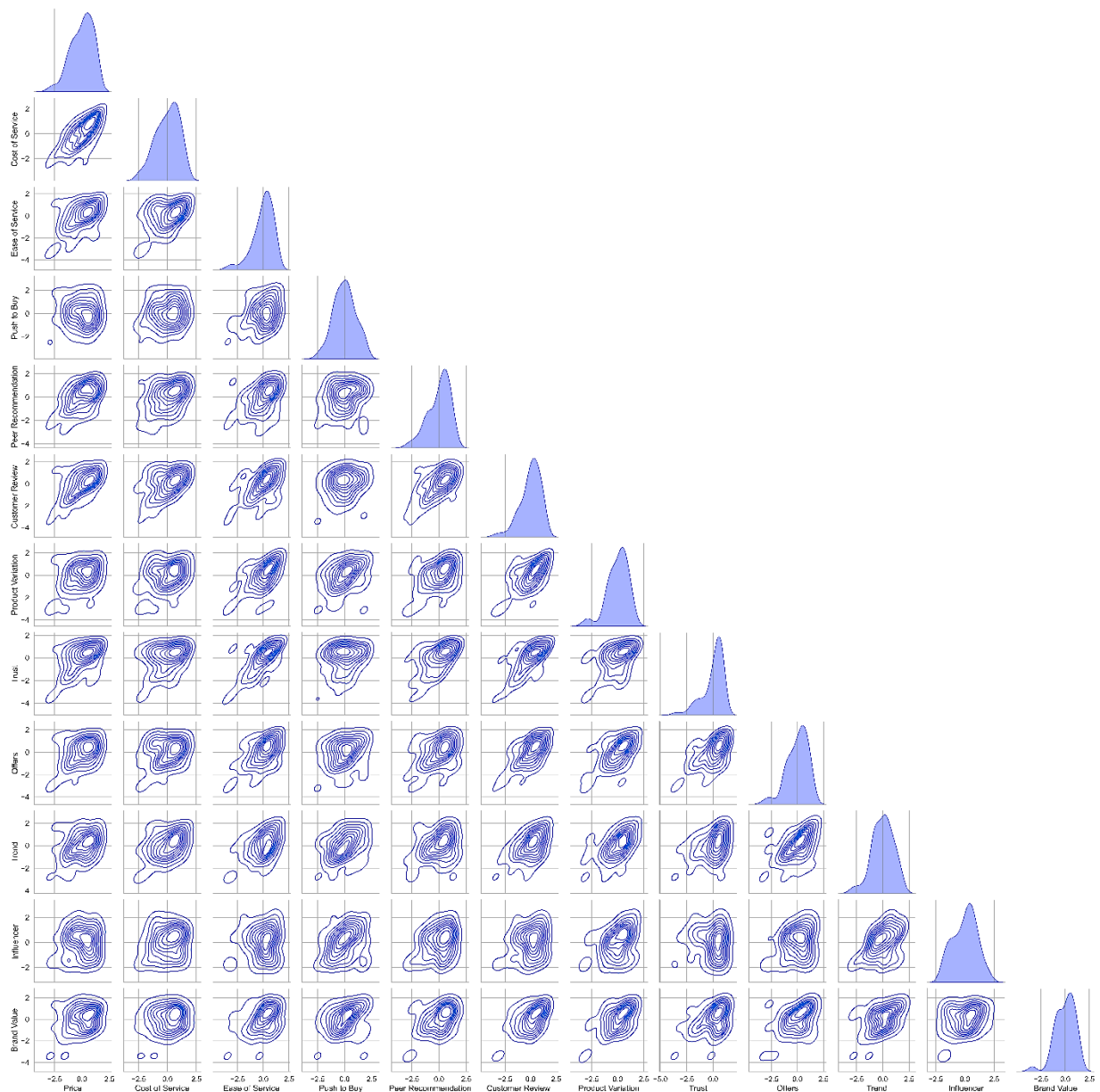

Figure 4.Linearity check of the data

In Figure 4 the relationships of the variables were shown. The diagonal portion of the graph demonstrates that all the factor values follow a normal distribution. Every factor is shown to have a linear relationship in the lower portion of the graph. Since there is a linear relationship between the variables, the study would concentrate on the correlations' Pearson's coefficient values.

Figure 5 demonstrate Pearson's correlation coefficients of the factors. In the figure price has a strong positive correlation with cost of service (0.7), peer recommendation (0.52) and customer review (0.56). Moderate relationship with ease of service (0.49), product variation (0.31), trust (0.49), offers (0.37), trend (0.35) and brand value (0.29). Weak relationship with push to buy (0.012) and influencer (0.066). Cost of service has moderate relationship with all other factors ease of service (0.42), push to buy (0.17), peer recommendation (0.38), customer review (0.45), product variation (0.27), trust (0.33), offers (0.26), trend (0.40), influencer (0.16) and brand value

(0.17). Ease of service has a strong relationship with customer review (0.54), product variation (0.56), trust (0.72), offers (0.55). Moderate relationship with push to buy (0.35), peer recommendation (0.42), trend (0.46) and brand value (0.39). Weak relationship only with influencer (0.075). Push to buy has moderate relationship with the factors peer recommendation (0.16), customer review (0.20), product variation (0.34), trust (0.23), offers (0.26), trend (0.37), influencer (0.31) and brand value (0.28).
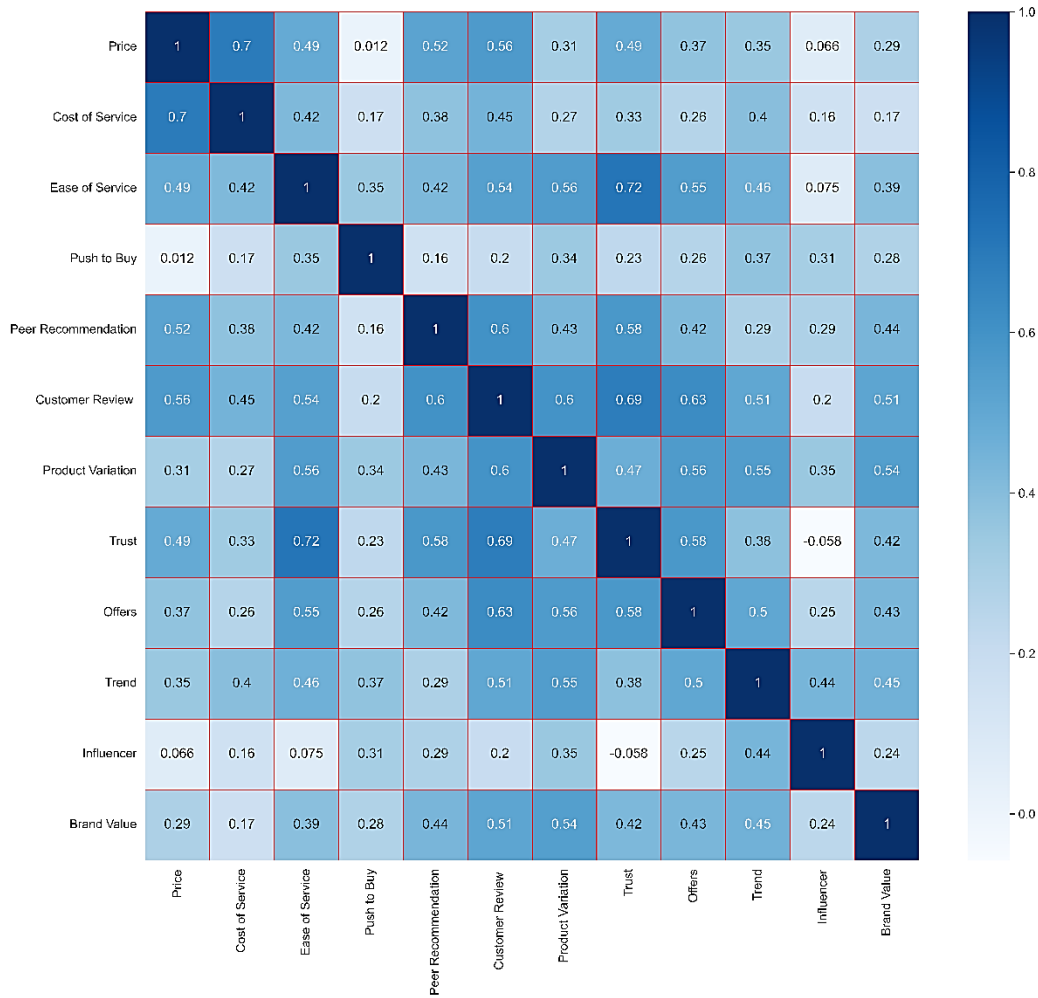

Figure 5. Pearson's correlation coefficient between the factors

Peer recommendation has a strong relationship with customer review (0.60) and trust (0.58). Moderate relationship with product variation (0.43), offers (0.42), trend (0.29) and influencer (0.29). Customer review has a strong relationship with product variation (0.60), trust (0.69), offers (0.63), trend (0.51) and brand value (0.51). Moderate relationship only with influencer (0.2). Product variation has a strong relationship with offers (0.56), trend (0.55) and brand value (0.54). Moderate relationship with (0.47). Trust has a strong relationship with offers (0.58). Moderate relationship trend (0.38) and brand value (0.42). But negative relationship with influencer (-0.058). Offers has a strong relationship with trend (0.5), moderate relationship with (0.43) and influencer (0.25). Trend has moderate relationship with both influencer (0.44) and brand value (0.45). Influencer has moderate relationship with brand value (0.24).

Figure 6 shows variations of the factors with respect to age group. The age range of 18 to 23 is the most price sensitive. The age group 29–33 is more sensitive to the cost of service. Both the 18 to 23 and the 24 to 29 age groups exhibit similar sensitivity to ease of service. Although the 18–23 and 24–29 age groups exhibit comparable

susceptibility to advertising, the 24–29 age group exhibits more variation. While the 29–33 age group is more interested in customer reviews, both the 18–23 and the 24–29 age groups exhibit the same amount of interest in peer recommendations. The interest in product variation and trend is comparable between the age groups of 18 to 23 and 24 to 29. While the three age groups pay equal attention to trust, the age group of 18 to 23 exhibits a broad range. Although in brand value, age group 29 -33 and 24 – 28 show same average value but 29 – 33 remains more loyal to the brand.
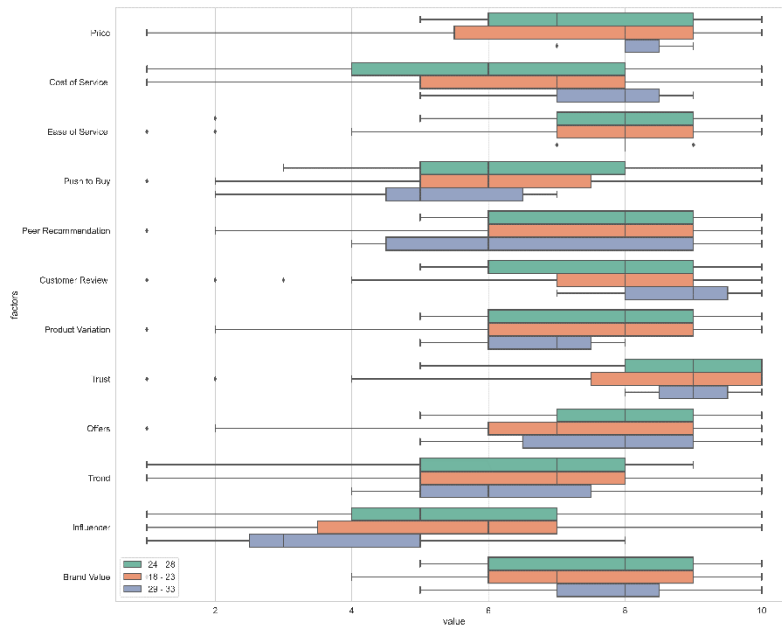

Figure 6. Variation of factors with respect to age group

Variations in variables about gender are shown in Figure 7. When it comes to gender, both men and women are equally sensitive to things like price, cost of service, push to buys, trust, trend, and influencer. However, brand value, product variation, peer recommendations, customer reviews, and ease of service are more important to men than to women.
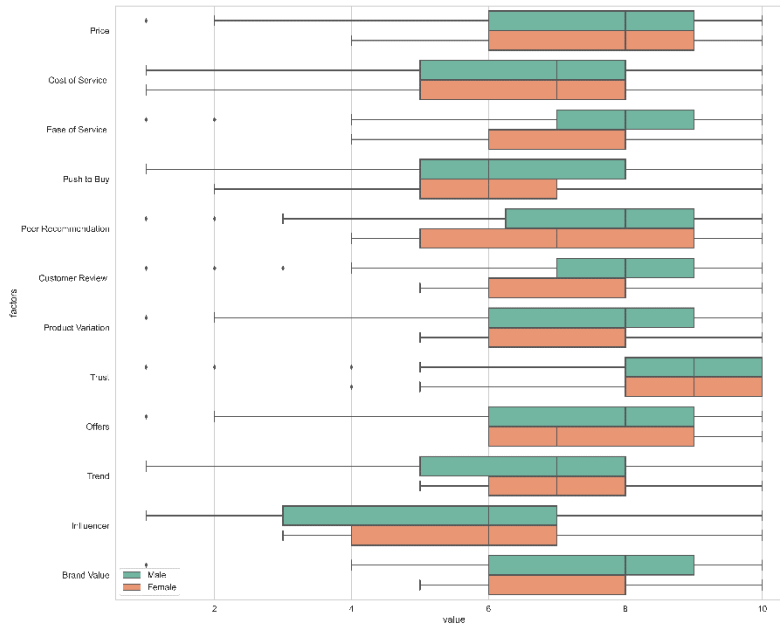
Figure 7. Variation of factors with respect to gender

Figure 8 demonstrates variations of factors with respect to living area. Social media motivated factors of online shopping have very wide range of relationship with consumers living area. Consumers living in cities, megalopolises and metropolises are equally sensitive to pricing. City dwellers are more focused on the cost of service. Megalopolis and metropolis dwellers give more focus in ease of service. People from town are influenced more with push to buys. Peer recommendation is more valuable to consumers of metropolis. Both metropolis and megapolis consumers give more emphasis to customer reviews. City dwellers search more for product variation. Although all kinds of consumers give high focus in trust, megalopolis people shop only from trusted sources and are more open to offers. Market trends have significant impact on city and metropolis consumers, but city consumers show a low variance. Consumers from city and village area are influenced more by influencer while brand value is important to consumers of megalopolis area.
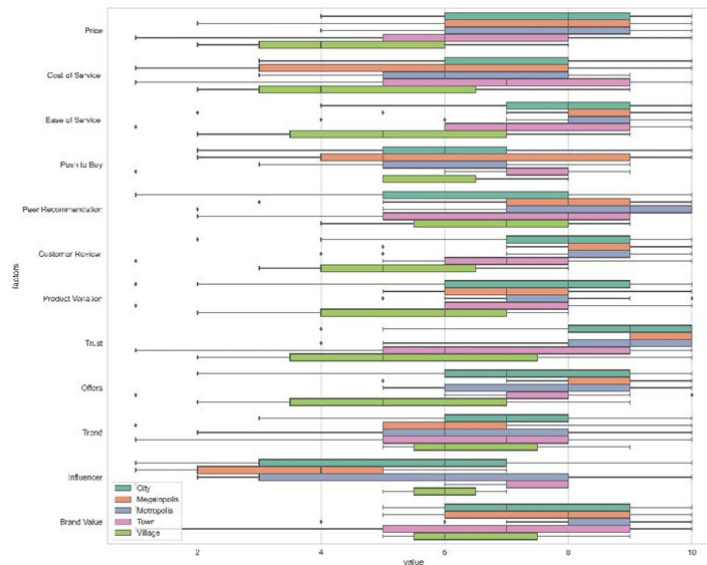

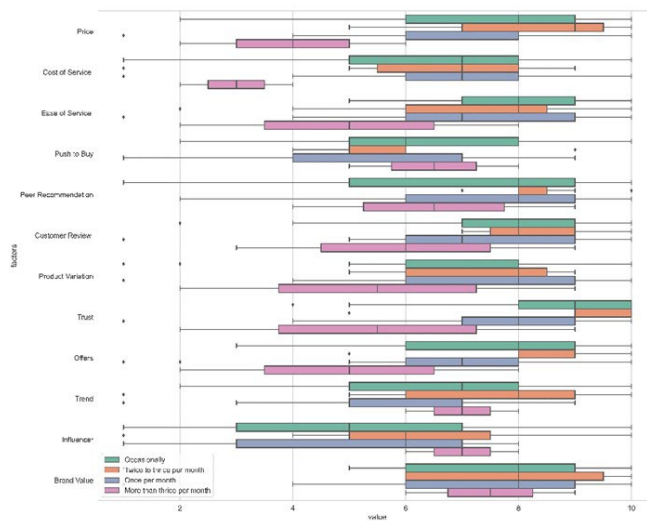Figure 8. Variation of factors with respect to living area

Figure 9.Variation of factors with respect to purchase frequency

The variances of variables among various purchasing behaviors are depicted in Figure 9. The survey categorizes consumers into four groups based on their purchasing patterns. Most consumers either shop two or three times each month or only seldom. When these two groups are the focus, they place a greater emphasis on things like price, cost of service, ease of service, peer recommendations, customer reviews, product variation, trust, offers, brand value, and trend.

6. Conclusion

The study's findings were very different from what was anticipated based on how we normally live. First, elements that lessen procedure and researcher bias were discovered through interviews and data collection from impartial sources and expert panels. Customer reviews, word of mouth, and trust were obviously at the top of the list of the assumable factors. Unexpected push to buy (advertising), the effects of social media influencers, and brand value were placed lower. In the case of trust, the association results were intriguing and distinctive. Push to buys and market trends have a largely moderate link with trust, while influencers have a negative correlation. The variations of the components in relation to various demographic characteristics also produced some quite intriguing findings. The study may be useful for enhancing the relationship between social media and online commerce as well as the online business model. The document contains information that marketers can use to grasp future digital marketing policies as well as other requirements for comprehending their target customers.

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Fairuz Nawer is an undergraduate student in the department of Industrial & Production Engineering (IPE) at Rajshahi University of Engineering & Technology (RUET). In 2018, she began studying for a Bachelor of Science in Industrial & Production Engineering. From Viqarunnisa Noon School and College, she acquired her Higher Secondary School Certificate in 2017 and her Secondary School Certificate in 2015, respectively. She exhibits interest in the fields of automation, operation research, production management, and supply chain management, which form the core of her professional curriculum. In the future, she is keen to pursue a career in research. Project management, automation, business management, production optimization, supply chain management, and other topics are among her research interests. She recently published a report on the impact of omnichannel and multichannel on retail and warehouse. She has also worked on a project titled "Mini Portable & Sustainable Refrigerator" under the guidance of RUET IPE academic members. She also actively engages in extracurricular activities.