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| RESEARCH ARTICLE

Factors Influencing E-Commerce Shopping Adoption: Empirical Evidence from Consumers in Bangladesh

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| ABSTRACT
This paper is an empirical research study examining the major drivers of Business-to-Consumer (B2C) e-commerce usage among consumers in Bangladesh, which is a developing digital economy that has great potential to grow, but with certain socio-economic and infrastructural limitations. The research is based on the existing theories of technology adoption and is contextualized in the case of developing economies, considering ten of the hypothesized determinants: the factors of the websites, the perceived risk, the service quality, the convenience, the price, the product variety, the consumer resources, the subjective norms, the product guarantees, and the demographics. A quantitative and cross-sectional design was used to gather data through a structured questionnaire to 66 internet users of Bangladeshi origin who had previous experience of online shopping. The results of the multiple regression analysis were that convenience, subjective norms, and price are the most influential positive predictors of the adoption intention. Surprisingly, the factors related to websites demonstrated a strong negative correlation, which indicates that the early adopters might accept inappropriate experiences on websites because of the strong value of the utilitarian core and social benefits. Perceived risk, service quality and product variety did not predict significantly in this sample, meaning that they could be neutralized by market adaptations such as Cash-on-Delivery systems and social commerce trust networks. The results have significant theoretical implications to contextualize the use of the technology acceptance model to explain the price-sensitive nature of emerging markets that are collectivist. In practice, the research has practical implications for e-commerce platforms to consider logistical convenience first, use social proof to their advantage, and implement friction-reducing designs, but advises policymakers to promote inclusive digital development by investing in infrastructure and implementing light-touch regulation.

| KEYWORDS
E-commerce Adoption, Online Shopping, Bangladesh, Consumer Behavior, Technology Acceptance, Digital Economy, Emerging Markets.

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1. Introduction
Digital revolution has essentially altered the world trade and given rise to new economic model and new consumer patterns across the world. The most significant part of this change is electronic commerce (e-commerce) that has developed into a new trend and becomes one of the basic elements of the world economy. As a phenomenon that

is defined as the use of the telecommunication networks to automatize the business relations and the workflow (Jamsheer, 2019, p. 8) e-commerce has generated the economy of technology where the disintermediation of traditional marketing channels and the establishment of direct connections between global sellers and consumers take place (Al Ghamdi et al., 2011). The COVID-19 pandemic has especially contributed to this change, triggering a colossal shift of the traditional retail sector to online platforms in the developmental economy as well as developed economies (Sarika et al., 2016).

This digital migration is on a global scale that has never been witnessed before. As the data of United Nations (2022) shows, e-commerce sales in the world in 2020 were just over four trillion, supported by more than two billion online buyers. In the frontline of this digital marketplace is the economic giants like China, which is selling more in e-commerce of 1.535 trillion and the United States at 875 billion in e-commerce sales. These statistics highlight the extent to which e-commerce has been assimilated into the economies of the developed economies. Nevertheless, the developing world story is a more complicated one of the faster but unequal adoption that is characterized by a great growth potential limited by structural, cultural, and technological obstacles (Zhu et al., 2014).

Among other global contexts, Bangladesh stands out as a very interesting case study. Bangladesh is an enormous untapped online market as a rapidly developing economy in the world and has a population of more than 166 million people. Over the past few years, Bangladesh has seen an incredible growth in digital infrastructure, and according to a report by the Bangladesh Telecommunication Regulatory Commission, there were 117.3 million internet subscribers in the country as of 2021 (ITA, 2021). Such digital penetration has led to an e-commerce craze, with more than 2,000 e-commerce specific websites and an approximate of 50,000 social commerce pages active on the platforms such as Facebook and Instagram. The market is already estimated to be about $1.6 billion and is expected to grow to 3 billion in 2025, with the fast fashion and electronic industry (598 million and 457 million) leading the market (Islam, 2019; Saiful and Akter, 2019).

Though the indicators of e-commerce growth are impressive in Bangladesh, e-commerce adoption in this country is surrounded by paradoxes. The e-commerce market development is only the 46th position in the global ranking of the country (Islam, 2019), and the Compound Annual Growth Rate (CAGR) is a relatively small 3 per cent, which is significantly lower than the rates of the countries with similar demographics and economic characteristics. Such a discrepancy in growth points to inherent obstacles that would inhibit wider adoption, such as uneven payment gateway solutions, fears of online fraud, lack of delivery systems, and poor digital literacy among important population groups (Saiful and Akter, 2019). Moreover, adoption is geographically skewed with most e-commerce operations located in urban centres such as Dhaka and Chittagong, whereas people in smaller cities, towns and rural locations, which are the real mass market, are mostly unreached by formal digital commerce mediums (Vitak et al., 2018).

Most of the scholarly work on the adoption of e-commerce has been concentrated on the Western developed economies, with new studies spreading to the large Asian markets such as China and India. Nevertheless, there is a considerable literature gap with respect to the actual sources of e-commerce adoption within the peculiar socio-economic environment of Bangladesh. The findings of studies reported by Aslam et al. (2019) in Pakistan and Rao et al. (2018) in India can serve as a valuable source of information about the region, but cannot be directly generalized to Bangladesh because of specific cultural, economic, and infrastructural factors. This research gap is especially critical considering that Bangladesh is a next-frontier digital market with the enormous growth capacity but limited by context-specific challenges unaddressed appropriately in the literature.

The gap in the present study is filled through systematic research, which examines the variables that determine Business-to-Consumer (B2C) e-commerce adoption by Bangladeshi consumers. Based on the literature of innovation diffusion and the Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), and other theories of technology adoption, this study will involve ten variables that are postulated to have an impact on the adoption decisions: (1) aspects of the websites, (2) perceived risk, (3) service quality, (4) convenience, (5) price, (6) product variety, (7) consumer resources, (8) subjective norms, (9) product guarantees, and (10) demographics. All

these are combined into a holistic conceptual approach that embodies the distinct interactions of the technological, psychological, social, and economic factors that apply to the Bangladeshi situation.

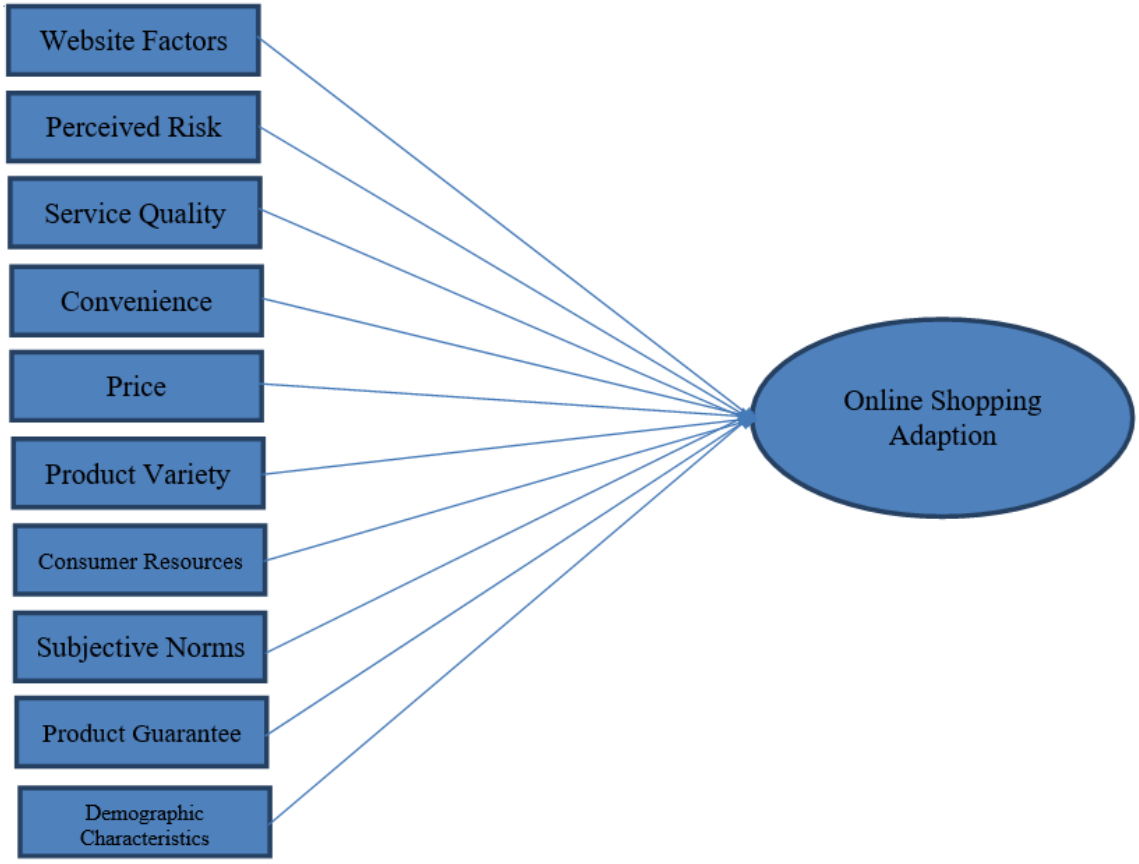

Figure 1: Visual representation of the research framework

The conceptual framework that is going to inform this investigation (as shown in Figure 1) is a synthesis of the information provided by various theoretical views, but with a consideration of context-specific factors that have been more pertinent to emerging economies. Such a combined method makes it possible to comprehend the mechanics of adoption in a more subtle way than they could have been discovered under any theoretical framework. The model acknowledges that in emerging economies such as Bangladesh, the adoption decisions depend upon both individual perceptions of utility of technology and the ease of use as well as social factors together with resource limitations and perceptions of risk, which can be even stronger than in the developed markets.

The main research question that leads to this investigation is as follows: What are the main factors that affect the adoption of B2C e-commerce shopping by the consumers in Bangladesh? The study has the following specific objectives in order to answer this question:

1. To investigate the effects of Web design and functionality variables on uptake of e-commerce.
2. To determine how the perceived risk dimensions influence consumer decision to undertake online shopping.
3. To test the importance of service quality perceptions in the adoption decision.
4. To find out the influence of convenience, pricing and product variety on adoption intentions.
5. To examine the social determinants (subjective norms) and individual resources.
6. To examine the influence of product guarantees and the demographic factors on the adoption patterns.

The study applies the quantitative research approach and its data collection is conducted through a structured survey questionnaire that is given to 66 Bangladeshi online users who have previously used e-commerce sites. The proposed data analysis will utilize the multiple regression methods to identify the overall relative importance of each proposed hypothesis, which will offer empirical findings regarding which variables have the greatest impact on the adoption intentions in Bangladeshi environment.

This research has a complex value. Theoretically, it adds to the body of literature on technology adoption by experimenting and possibly improving the already existing models into a particular developing economy setting, which may disclose contextual moderators that shift the pre-existing association patterns among variables. To a significant degree, it shows the use of strong quantitative methods to examine the topic of digital adoption within an up-and-coming market environment. In practice, the results provide practical implications to various stakeholders: e-commerce companies can invest more in areas that have a most significant impact on consumer adoption; policymakers can develop the interventions that would mitigate the most severe obstacles; and global investors will be able to make better decisions when it comes to entering the market and planning.

Since Bangladesh is at a decisive point in the process of digitization, and e-commerce can become the decisive factor in the economic growth and financial inclusion, it becomes more and more important to comprehend the specific factors that determine consumer adoption. This study transcends the scope of hypocritical analysis onto an empirical based, context-specific findings that can be used to inform strategies, policies and investment choices. The research will include a vivid literature review, a elaborate methodology, findings analysis and implications discussion that will end in conclusions and future research recommendations.

2. Literature Review

2.1. Theoretical Foundations of E-Commerce Adoption

The studies of the adoption of e-commerce are based on a number of well-established theoretical frameworks that aim to clarify technology acceptance and consumer decision making processes. Technology Acceptance Model (TAM) by Davis (1989) offers a conceptual framework, and its main assumption is that the perceived usefulness and perceived ease of use are the main cognitive antecedents of the intention to adopt technology. Online shopping, perceived usefulness will be translated into the actual benefits that consumers relate to online shopping in terms of time, cost, and access to a wider product range, whereas perceived ease of use will be associated with the intuitiveness and the ease of navigation of online stores (Blagoeva and Mijoska, 2017). This model has widely been used in cultural settings and it shows a high explanatory advantage of first-time adoptions.

In addition to this line of thought, the Theory of Planned Behavior (TPB) (Ajzen, 1991) elaborates on the concept of behavioral intention by adding social or control elements. It states that intention is not only determined by personal attitude towards the behavior but it is affected by the subjective norms (perceived social pressure of referent groups) and the perceived behavioral control (confidence of the individual to carry out the behavior). It is especially applicable to the collectivist societies such as Bangladesh, where the views of the family and the community can play an important role in shaping the consumer behavior of the individuals (Tarhini et al., 2018). Moreover, the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) integrates the factors of many models with a focus on the elements of performance expectancy, effort expectancy, social influence, and facilitating conditions as the direct factors of usage intention and behavior.

Although these theories present a sound starting point, scholars warn that their blind use in the context of developing economies is not good. The e-commerce adoption in the emerging economies is limited by a unique combination of sociological, cultural, technological, legal and political factors that are beyond the variables of the classical models as Zhu et al. (2014) convincingly state. This requires a situational, multi-faceted, multi-dimensional, and multi-factorial approach, which combines technological, psychological, social, and economic aspects that can be more critical in the situation, such as Bangladesh, where infrastructure disparities and lack of trust may be more significant factors of adoption than in developed Western markets (Vitak et al., 2018).

2.2. Critical Determinants of Adoption: A Global and Regional Perspective

Numerous studies conducted in a wide variety of markets have discovered that a set of factors are very similar and, accordingly, have an impact on the choice to shop online. Such factors however differ in their relativity according to the maturity of the digital market, the cultural norms, and the development of the infrastructures. These determinants are compounded into the following, where the special focus is given to the evidence of South Asia and other developing settings.

2.2.1. Technological and Website Factors

The e-commerce system is the key interface and one of the most important trust indicators of the consumers. The quality of the websites is always determined as a pre-condition of adoption. As observed by Ocloo et al. (2018), websites to businesses, particularly SMEs, do not only serve as transactional gateways but also as fundamental spending tools as far as advertising, interacting with customers, and distributing information is concerned. According to Sühartanto et al. (2018), the comprehensive definition of the quality of the web site is based on its ability to help people shop, buy and deliver products and services efficiently and effectively. This includes the quality of the system (quality of reliability, speed, ease of navigation, etc.), quality of information (accuracy, timeliness, comprehensiveness), and quality of service interaction. Pakistani empirical data highlights the fact that consumer trust is a direct result of high website and information quality, which consequently leads to the emergence of e-loyalty (Aslam et al., 2019). Moreover, such factors as Search Engine Optimization (SEO) increase the visibility and accessibility of the platform, reducing the search process among the consumers (AB, SH, S, & WZ, 2018).

2.2.2. Perceived Risk and Trust-Based Factors

The perceived risk is also one of the most significant barriers to adoption because the intangible nature of online transactions when it comes to the physical inspection of products and advance payment further increases the perceived risk. Guru et al. (2020) define perceived risk as a multi-dimensional construct that incorporates the nature and the magnitude of uncertainty or consequences to the consumer such as financial risk (lost money), performance risk (product failure), time-loss risk, and, more and more, privacy and security risks. If the regulatory systems are not as well developed as they are in developed economies, and there is a lot of talk about online scams in developing economies, these concerns are more likely to be heightened by such factors. The research in Sri Lanka and Pakistan validates that the perception of security and privacy is a core of establishing the consumer trust needed to be adopted (Aboobucker, 2019; Aslam et al., 2019). Some mitigation measures described in literature are trusted payment gateways, clear privacy policies, and strong security certifications (Wai, Dastane, Johari, and Ismail, 2019).

2.2.3. Value and Utility Factors: Convenience, Price, and Product Variety

This category is the center of value proposition of e-commerce as a consumer. The convenience, which is generally characterized as a way of saving time, effort, and physical energy, is mentioned time and again as one of the main factors that drive online shopping. Raman (2019) and Rao et al. (2018) emphasize that it helps to shape positive attitudes, particularly in urban populations with no time and female customers in South Asia. Convenience is involved in the whole customer experience, including 24/7 access and home delivery, easy search and comparison (PauloDuarte, Silva, and Ferreira, 2018).

Competitiveness in terms of price is still influential especially in price-sensitive markets such as Bangladesh. According to Hanaysha (2018), customers are already searching online promotional deals and discounts, and Esitti (2018) describes lower prices as one of the key success factors in online e-commerce platforms. Nevertheless, this aspect is subtle; buyers are not only sensitive to the price of a product but also to the cost of shipping, and they will feel better when the low price is combined with high-quality service (Gawor & Hoberg, 2019).

Product Variety- Wideness and depth of the choice available is another critical strength of digital marketplaces. It serves the need of variety seeking behavior and can offer access to goods that are perhaps not available in the local market. A study conducted in Jordan and India revealed that the large product selection is one of the strongest

incentives to purchase goods online, especially to buy clothes, electronics, and niche products (Tarhini et al., 2018; Arora and Aggarwal, 2018).

2.2.4. Social and Contextual Factors

Customers cannot make their choices in a social vacuum. Subjective Norms- the influence of family, friends and larger social network- have a strong control over behavior particularly in collectivist cultures. The researchers Ha (2020) and García et al. (2020) prove that adoption intentions are highly influenced by recommendations and observational learning by referent groups. It is interconnected with the word-of-mouth and electronic word-of-mouth (eWOM), in which favorable opinions and testimonials can be considered crucial trust indicators to the potential new users (Kaur and Arora, 2020).

Facilitating conditions also known as Consumer Resources are physical and non-physical assets required to engage in e-commerce. According to UTAUT, this involves the availability of devices (smartphones/computers), availability of accessible and cheap internet connectivity, digital literacy, and availability of a payment system (e.g., mobile financial services such as bKash in Bangladesh). According to Piarna et al. (2020) and Misra and Vashisht (2019), these resources are the basic enablers of the adoption, without which the process becomes virtually impossible with the intention or not.

2.2.5. Service Quality, Guarantees, and Demographic Moderators

In the digital context, or e-service quality, service Quality applies to the support of the transaction. It incorporates responsiveness of the customer services, dependability of their delivery commitments, and convenience of making the returns or complaints. Rita et al. (2019) developed a good positive relationship between e-service quality and customer satisfaction, trust, and repurchase intention. The direct means to reduce a risk are Product Guarantees (warranties and hassle-free returns). They shift the risk off the consumer to the seller, which is an indicator of product confidence and the establishment of trust (Benson, Ezingeard, and Hand, 2019; Amron, 2018).

Lastly, Demographic Characteristics: age, gender, income, education, and geographical location (urban/rural) has always proved to be an important moderator of adoption behavior. Earlier adopters are usually younger, more educated, and the high-income urban population, and older people and rural residents may experience a higher learning curve and infrastructural barriers (Huseynov and Yildirim, 2019; Rao et al., 2018).

2.3. Synthesis and Contextualization for Bangladesh

The e-commerce adoption picture is a complex multi-faceted one as revealed in the literature. Though the general drivers such as convenience and price are obvious, the interaction between them and context-specific barriers such as perceived risk and resources constraints drive unique adoption patterns within various markets. In the case of Bangladesh, the synthesis points to a combination of forces as causing adoption: platforms will need to provide an attractive value proposition (convenience, price, variety) and successfully reduce salient risks by ensuring the quality of the web site and excellent service provision and promises. Moreover, the high level of collectivism and social structure will imply that the subjective norms and social evidence will be especially influential. These insights are combined into the proposed conceptual framework of the introduction (Figure 1.3.1), which suggests a model in which the combination of these ten factors will determine the intention to adopt e-commerce in Bangladeshi consumers. This structure leads to the following empirical research.

Table 1: Literature Synthesis on E-commerce Adoption Factors

Factor	Key Constructs & Dimensions	Representative Findings from Literature	Relevant Studies
Website Factors	System Quality, Information Quality, Ease of Use, Navigation, Aesthetics	Directly impacts trust and perceived ease of use; poor website quality is a primary barrier.	Ocloo et al. (2018); Aslam et al. (2019); Suhartanto et al. (2018)
Perceived Risk	Financial Risk, Performance Risk, Security/Privacy Risk, Time Risk	A major barrier in developing economies; must be mitigated for adoption to occur.	Guru et al. (2020); Aboobucker (2019); Wai et al. (2019)
Service Quality	Reliability, Responsiveness, Assurance, Empathy (E-SERVQUAL)	Strongly linked to post-purchase satisfaction, trust, and repurchase intention.	Rita et al. (2019); Demir et al. (2020); Shankar & Jebarajakirthy (2019)
Convenience	Time Savings, Effort Reduction, Accessibility, Transaction Ease	One of the most powerful universal motivators for online shopping.	Raman (2019); Rao et al. (2018); PauloDuarte et al. (2018)
Price	Price Competitiveness, Discounts, Shipping Costs, Perceived Value	A key advantage of e-commerce; price sensitivity is high in emerging markets.	Hanaysha (2018); Esitti (2018); Amron (2018)
Product Variety	Assortment Size, Brand Diversity, Product Availability	Drives consumer interest and caters to variety-seeking behavior; an online strength.	Tarhini et al. (2018); Arora & Aggarwal (2018); Pandey & Chawla (2018)
Consumer Resources	Internet Access, Device Availability, Digital Literacy, Payment Methods	Foundational facilitating condition; lack of resources prevents adoption.	Piarna et al. (2020); Misra & Vashisht (2019)
Subjective Norms	Social Influence, Family & Peer Opinions, Word-of-Mouth, eWOM	Particularly strong in collectivist cultures; influences initial trial and trust.	Ha (2020); García et al. (2020); Kaur & Arora (2020)
Product Guarantee	Return Policies, Warranties, Money-Back Guarantees	Reduces perceived performance risk and builds seller credibility.	Benson et al. (2019); Amron (2018); Tarhini et al. (2018)
Demographics	Age, Gender, Income, Education, Location (Urban/Rural)	Key moderating variables that segment the market and influence adoption rates.	Huseynov & Yıldırım (2019); Rao et al. (2018); Benson et al. (2019)

3. Research Methodology

3.1. Research Design and Philosophical Approach

This paper uses the deductive, quantitative research approach that is based on positivist philosophical perspective. The positivist paradigm focuses on the objectivity, measurement, and testing of previously formulated hypotheses based on the results of empirical observation (Creswell and Creswell, 2018). This method is especially appropriate concerning the aim of the study to determine and quantify the strength of the correlations between given independent variables (the ten adoption factors) and the dependent variable (e-commerce adoption intention) in the Bangladeshi consumer environment. The survey design that was used was cross-sectional, which enabled the researcher to collect data on a sample of the population at one time to investigate these relationships (Saunders, Lewis, and Thornhill, 2019). This design will allow the researcher to test the hypotheses enclosed in the conceptual framework stated in Figure 1 in a systematic manner so that it will be possible to make inferences regarding the factors that affect the adoption.

The reason behind the choice of the quantitative methodology over the qualitative methods was due to a number of reasons. First, it enables measuring consumer perceptions and intentions with high accuracy (i.e., on a standardized measure, e.g., Likert scales). Second, it allows applying statistical methods, namely the multiple

regression analysis, to conclude not only whether relationships are existent, but also to estimate the direction, strength, and relative importance of relationships between two or more predictors. This analytical power is necessary to answer the main question of the research which are the most influential factors. Lastly, when significant with respect to quantitative data are collected, they can be inferred to the general population of internet users in Bangladesh especially when the correct sampling methods are employed hence providing information that will be of value to the academia as well as the industry.

3.2. Population, Sampling Frame, and Procedure

3.2.1. Target Population and Sampling Frame

The population that would be the focus of this study was the internet users in Bangladesh who may or may not be consumers of Business-to-Consumer (B2C) e-commerce services. According to the latest statistics, it represents a huge number of more than 100 million people (Abir et al., 2020). Nevertheless, it is not practically possible to get an ideal, enumerated sampling frame of the number of internet users in Bangladesh. As a result, a non-probability convenience sampling method was employed in the study. In this approach, the choice of respondents is based on the participants being easily accessible and likely to participate, which is standard and frequently required in case of exploratory research in difficult field settings (Etikan, Musa, and Alkassim, 2016).

To reduce the natural constraints of the convenience sampling and to increase the sample diversity, the researcher used a multi-channel dissemination approach. The questionnaire was sent through student groups in Bangladeshi universities, LinkedIn professional network and different community platforms on Facebook and Instagram where there were active conversations on online shopping.

3.2.2. Sample Size and Response Rate

A total of 200 responses were aimed at as the target in order to have adequate statistical power in the intended multiple regression analysis comprising of ten independent variables. As per the methodological rules, at least 10-15 observations on a predictor variable are suggested (Hair, Black, Babin, and Anderson, 2019). The survey was initiated by 100 people. Following a strenuous data cleaning that eliminated incomplete and those who took too little time to respond (indicating lack of concentration), 66 complete and useful questionnaires were retained to be analyzed. This gave a 66 percent response rate which was usable. Although the final sample size (n=66) is not as large as the predictive sample, it still is sufficient to draw meaningful regression analysis and a strong base of exploratory and context-specific findings (Green, 1991).

3.2.3. Ethical Considerations

Before being allowed to participate in the research, all the respondents were informed of the informed consent statement on the opening page of the online survey. This statement explained the purpose of the research, guaranteed full anonymity and confidentiality, explained that participation was voluntary and that the respondents would be allowed to back out at any time without penalty. No personal identifiable data was obtained. The data was kept in a safe place and was performed in aggregate form exclusively used in this academic research.

3.3. Data Collection Instrument and Measures

A structured self-administered questionnaire, which was written in both English and Bangali to ensure the questionnaire was understood, was the main means of data collection. The questionnaire was on Google Forms as it is easily spread and data is also easily handled.

Risk	7. I am confident that the information I provide to an Internet retailer is not used for other purposes
	6. There is a low risk for purchasing online
	8. I feel secure about providing my bank card details to a payment platform
	9. I am confident that my personal information is protected by an Internet retailer
	10. Online shopping is just as secure as traditional retail shopping
Consumer resource	31. I have regular access to the Internet
	30. I have regular access to a computer
	32. I am very skilled at using the Internet
	33. I have knowledge about how to make purchases through the Internet
Website factors	2. The website designs of the Internet retailers are aesthetically attractive
	5. It is quick and easy for me to complete a transaction through the website
	4. The links within the website allow me to move back and forth easily between pages of the website
	1. Internet retailers' websites are easy to navigate
	3. The Internet retailers' websites provide in-depth information to answer my questions
Price	25. Online shopping allows me to save money as I do not need to pay transportation costs
	24. Online shopping allows me to buy the same, or similar products, at cheaper prices than traditional retailing stores
	26. Online shopping offers better value for my money compared to traditional retail shopping
	23. I think the Internet offers lower prices compared to retail stores
Service quality	17. Internet retailers encourage me to make suggestions
	16. Internet retailers understand my needs
	18. Internet retailers offer good after sales service
	15. It is easy to receive a personalized customer service from an Internet retailer
Convenient	20. It takes only a little time and effort to make a purchase through the Internet
	21. Internet shopping saves me time, so I can do other activities
	19. It is more convenient to shop through the Internet when compared to traditional retail shopping
Subjective norms	35. The media influenced my decision to make purchases through the Internet
	36. Marketing communication influenced my decision to make purchases through the Internet
	34. Family/friends encourage me to make purchases through the Internet
Product guarantee	12. The quantity and quality of the products I receive from Internet retailers are exactly the same as I order
	11. Internet retailers honour their product guarantees
	13. The products I ordered are delivered to me within the time promised by the Internet retailers
Product variety	27. Internet shopping offers a wide variety of products
	28. I always purchase the types of products I want from the Internet
	29. I can buy the products that are not available in retail shops through the Internet

Figure 2: Visual overview of the research measurement model and instrumentation.

3.3.1. Questionnaire Structure

The questionnaire comprised three distinct sections:

- Section A: Demographic and classificatory information, such as gender, age, education level, occupation, monthly income, geographical location (urban/rural), previous experience with online shopping, and frequented e-commerce sites the most. Categorical and ordinal scales have been used in this section.
- Section B: Measured the nine major independent constructs (Website Factors, Perceived Risk, Service Quality, Convenience, Price, Product Variety, Consumer Resources, Subjective Norms, Product Guarantee), and the dependent variable (E-commerce Adoption Intention). Everything in this section used a five-point Likert scale, 1 = Strongly Disagree and 5 = Strongly Agree.
- Section C: This had an open-ended question on extra comments (not compulsory).

3.3.2. Scale Development and Adaptation

The measurement items in the constructs were not created de novo, but modified those that were previously used in the study of e-commerce adoption and adoption of technology as a way of assuring content validity and reliability. The adaptation sources are explained in Table 2. As an example, Website Factor and Perceived Risk items were modified after Hajli (2012) and Guru et al. (2020) respectively. This is an element of the process of adapting proven instruments that is widespread in survey studies and increases the strength of the results (Dillman, Smyth, and Christian, 2014). Face and content validity the entire questionnaire was initially tested by two academic professionals. A professional translator then translated it into Bangali and the process was repeated with the help of another person where the translation was made back to English to test the conceptual equivalence and clarity.

3.3.3. Pilot Testing

The respondents who were not included in the main study and met the sample criteria were picked as pilot study of 30 respondents. The pilot test had two major purposes; (1) to determine whether or not there was ambiguous or confusing wording in the instructions or items, and (2) to perform an initial evaluation of the internal consistency reliability of the scales through Cronbachs Alpha. The alpha values in all constructs used in the pilot test were more than the acceptable level of 0.70 meaning good reliability (Nunnally and Bernstein, 1994). Minor changes in wording were done on the basis of pilot response prior to the final survey being released.

Table 2: Operationalization of Constructs and Measurement Sources

Construct	No. of Items	Sample Measurement Item	Measurement Scale	Adapted Source(s)
Website Factors (WF)	5	"E-commerce websites I use are well-organized and easy to navigate."	5-point Likert	Hajli (2012); Ocloo et al. (2018)
Perceived Risk (PR)	4	"I am concerned that my personal/financial information could be misused when I shop online."	5-point Likert	Guru et al. (2020); Wai et al. (2019)
Service Quality (SQ)	4	"Online shopping sites provide prompt and helpful customer service."	5-point Likert	Rita et al. (2019); Shankar & Jebarajakirthy (2019)
Convenience (CON)	4	"Online shopping saves me a significant amount of time compared to traditional shopping."	5-point Likert	Raman (2019); PauloDuarte et al. (2018)
Price (PRI)	3	"I generally find better prices and discounts online than in physical stores."	5-point Likert	Hanaysha (2018); Amron (2018)
Product Variety (PV)	3	"Online stores offer a much wider selection of products and brands."	5-point Likert	Tarhini et al. (2018); Arora & Aggarwal (2018)
Consumer Resources (CR)	4	"I have access to a reliable internet connection suitable for online shopping."	5-point Likert	Piarna et al. (2020); Misra & Vashisht (2019)
Subjective Norms (SN)	3	"Most people who are important to me think I should shop online."	5-point Likert	Ha (2020); García et al. (2020)
Product Guarantee (PG)	4	"Clear 'return and refund' policies would make me more confident to shop online."	5-point Likert	Benson et al. (2019); Amron (2018)
E-commerce Adoption (ADOPT)	4	"I intend to use online shopping platforms regularly in the future."	5-point Likert	Hajli (2012); Jin et al. (2016)

3.4. Data Analysis Techniques

The gathered data was studied with the help of IBM SPSS Statistics (Version 26). The analysis took a systematic order of the descriptive statistics to inferential statistics.

3.4.1. Descriptive Statistics

At first, frequencies and percentages were created to profile demographic data of the sample (e.g., age, gender, income distribution). All Likert-scale constructs were used to determine the means and standard deviations to learn more about their centrality and dispersion in the sample.

3.4.2. Reliability Analysis

Cronbach-Alpha coefficient was used to determine the internal consistency of the individual multi-item constructs. Alpha coefficient of 0.70 and above is reasonable as it allows to show that items on a scale can be used to assess the same underlying concept (Nunnally and Bernstein, 1994). This test was important to confirm the quality of the measurement instrument that was applied in the study.

3.4.3. Inferential Statistics

The core analysis involved hypothesis testing through the following techniques:

- Multiple Linear Regression Analysis: This was the main statistical tool that was utilized to test the hypotheses H1-H9. The regression analysis is the measurement of the extent into which a given set of independent variables are predictors of the dependent variable. Some of the key outputs that were analyzed were:
    - R2 and Adjusted R2: Refraining to the percentage of the variance of the dependent variable (Adoption Intention) that is explicated by the model.
    - ANOVA (F-test): Evaluating the statistical significance of the regression model in general.
    - Beta Coefficients (0): The direction and strength of the relationship between each independent variable and the dependent variable, other variables being constant.
    - t-tests and p-values: Ascertainment of the individual statistical significance of each predictor variable. The level of significance was set at p-value less than 0.05.
- Analysis of Demographic Effects (H10): The effect of demographic characteristics was tested by using independent samples t-tests (when independent variables like gender were used) and one-way Analysis of Variance (ANOVA) (when independent variables like age group, income bracket, and education level had multi-category variables).

The proposed conceptual framework was to be strictly analyzed in accordance with this comprehensive analytical plan and clearly and statistically answer the set research questions.

4. Findings and Analysis

4.1. Introduction to Data Analysis

The chapter introduces the empirical results based on the primary data obtained with the help of the structured questionnaire. Analysis is done in a rational order starting with the response rate and a demographic profile of the respondents to give a background of the sample. This is complemented by the descriptive statistics of the key research variables, evaluation of the reliability of the measurement tool, and the concluding component of the study is the inferential statistical test aimed at proving the hypotheses. The multiple regression analysis is the major instrument that will be used in establishing the importance and comparative value of the ten independent variables on the adoption intention of Bangladeshi consumers of e-commerce. The analysis involved the use of all the IBM SPSS statistics (version 26) and the results were provided in a tabular and graphical form.

4.2. Response Rate and Sample Realization

Based on 100 mailed questionnaires, 66 valid and complete responses were gathered, as reported in the methodology, which resulted in a usable response of 66. This is an adequate response rate when conducting survey-based research in the social sciences and this is specifically true in the exploratory research with particular digital communities (Fowler, 2013). The proposed multiple regression analysis on the final sample size (N=66) gives a reasonable ground to conduct the analysis due to the minimum number of observations needed per predictor variable in drawing preliminary and context-specific inferences.

4.3. Demographic Profile of Respondents

It is important to know what the sample is composed of so as to have an idea of how to contextualize the findings that come thereafter. The demographic study indicates that the sample is somewhat young, well-educated, and mostly urban-oriented which is reflective of the early adopters of the digital technologies in Bangladesh.

4.3.1. Gender and Age Distribution

The study indicates a gender balance in the sample whereby a larger number of the respondents are men (56.1%) and only a few are women (43.9%). Such a skew is in compliance with the country-wide surveys on the internet and primary e-commerce use in Bangladesh, where a gender gap in digital access and adoption has been reported previously (Bangladesh Household Survey, 2018-2019).

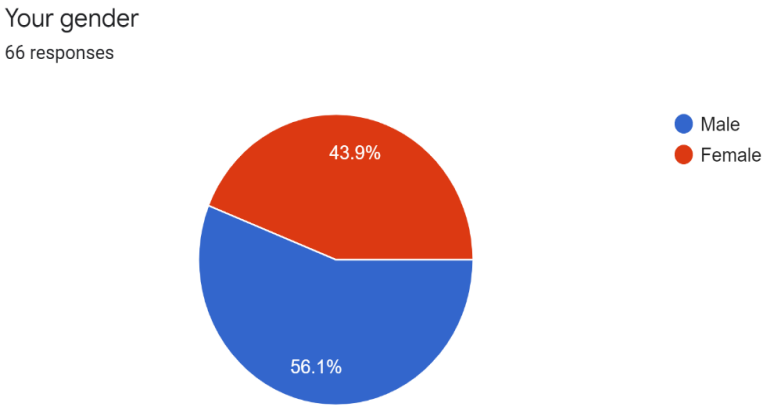

Figure 3: Gender Distribution of Respondents.

There is a significant age distribution that is skewed towards the young population. A massive 71.2% of the respondents fell within the 20-25y age group, and the remainder 18.2 within the 25-30y range. This means that the sample is very representative of the digitally native and younger generation that drives online consumption in the world and in Bangladesh.

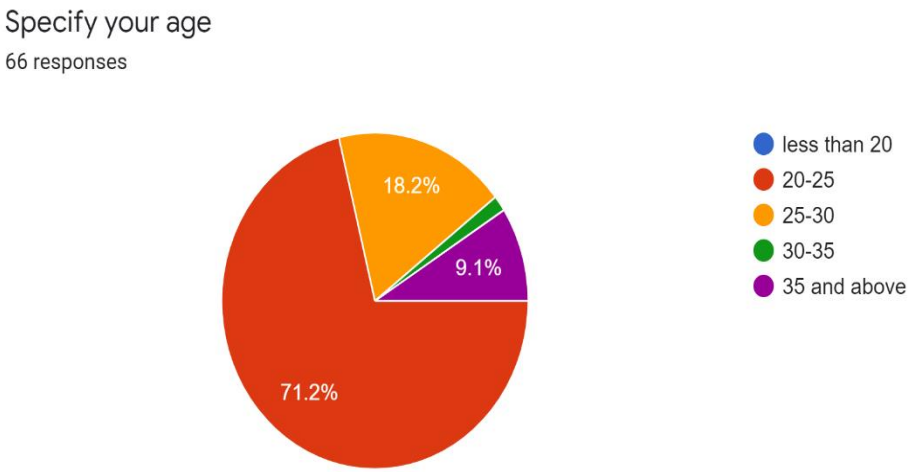

Figure 4: Age Distribution of Respondents.

4.3.2. Education, Occupation, and Income

The sample is very educated with 75.8% of having undergraduate education and 16.7% of those who have a master degree. This is congruent to the increased literacy level of internet users and implies that the respondents will be familiar with the ability to handle digital information.

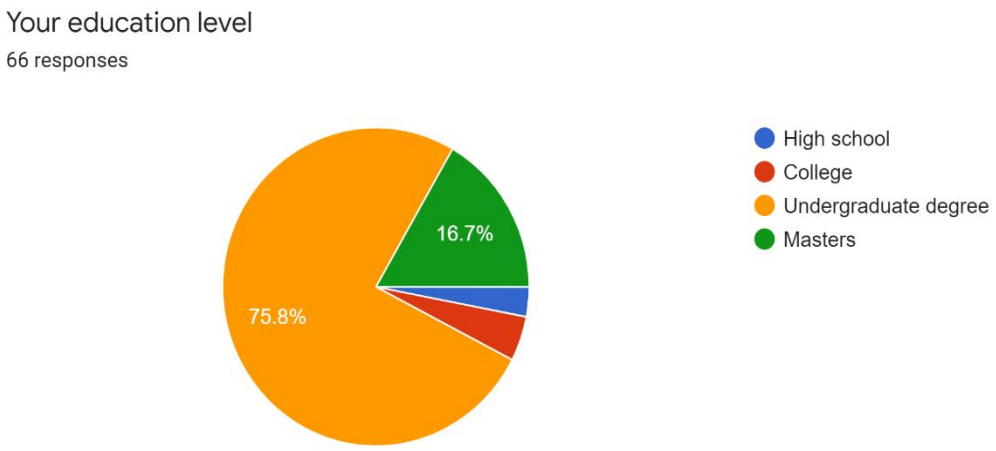

Figure 5: Education Level Distribution of Respondents.

The biggest percentage (42.4) was under the other (Other) category which can include students, freelancers and homemakers. Public and private employees formed 19.7 and the other 15.2 were business owners.

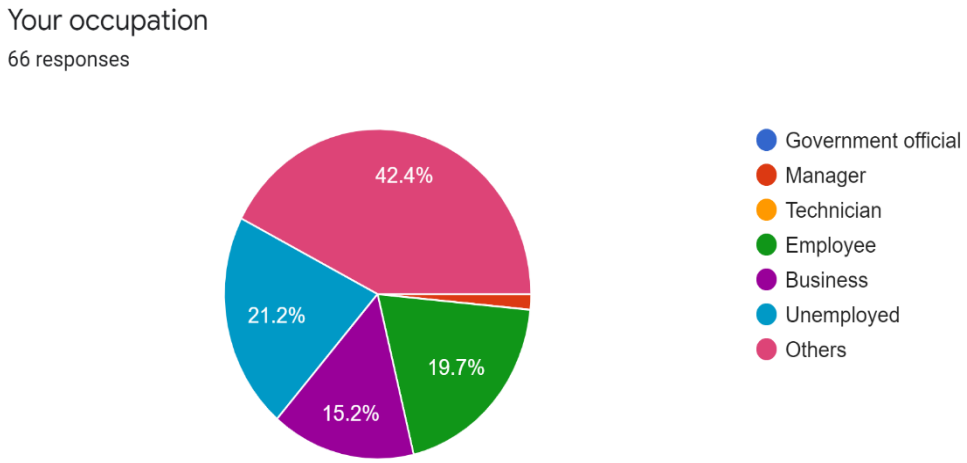

Figure 6: Occupation Distribution of Respondents.

On the issue of monthly earnings, the highest number (39%) indicated that their earnings were between TK 10,000 and TK 30,000 which is close to the national average wage. Segment with income of TK 30 000-60 000 and 100 000 each accounted 25.4% of the 59 participants who reported incomes.

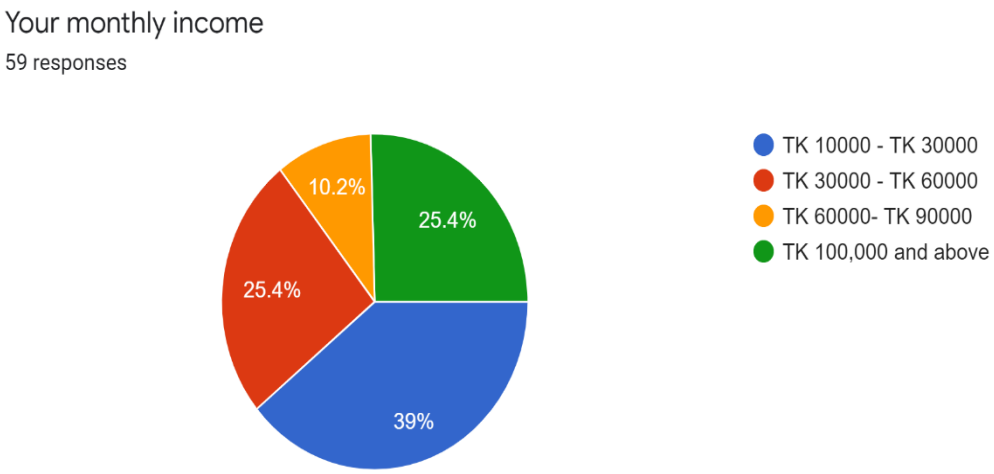

Figure 7: Income Distribution of Respondents.

4.3.3. Online Shopping Experience and Platform Use

The most important metric that shows the relevance of the sample is their previous experience with e-commerce. On a positive note, 90.9 per cent of the people surveyed assured that they were conversant and had visited online stores, leaving only 9.1 per cent of the surveyed people at the bottom as total newcomers. This proves that the data is mostly a representation of the views of people having some experience with the online shopping space.

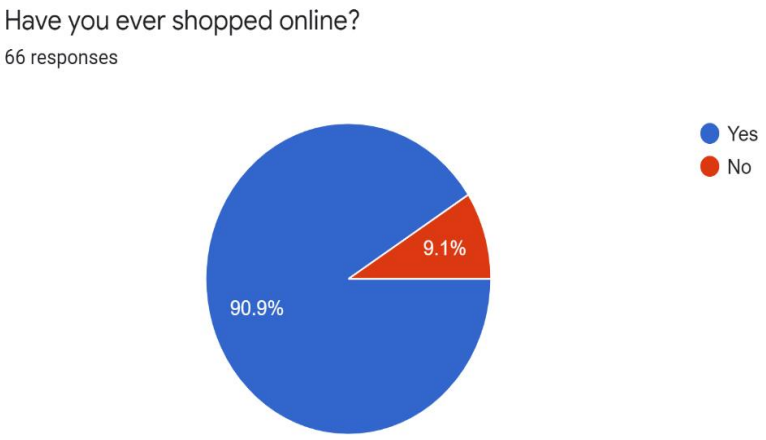

Figure 8: Online Shopping Experience of Respondents.

Daraz turned out the most popular platform (13%), then Amazon (11.1%), which confirms the power of such market leaders as well as global giants.

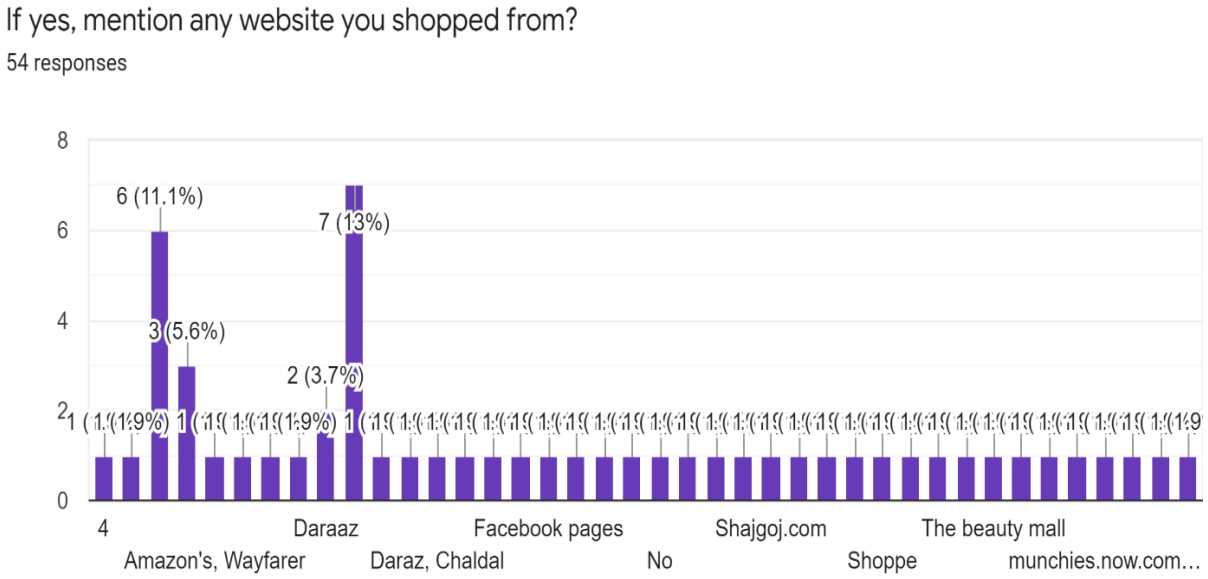

Figure 9: Most Visited E-commerce Platforms.

4.4. Descriptive Statistical Analysis of Constructs

Prior to hypothesis testing, the central tendency and dispersion of the scores for all measured constructs were examined. The results, presented in Table 3, provide an overview of how respondents, on average, perceived each factor.

Table 3: Descriptive Statistics of Research Constructs (N=66)

Construct	Mean (μ)	Standard Deviation (SD)	Interpretation
Perceived Risks (PR)	3.0000	0.634	Neutral perception, moderate concern.
Consumer Resources (CR)	4.0379	0.346	High agreement; good access to resources.
Website Factors (WF)	3.4697	0.587	Moderately positive perception.
Price (PRI)	3.3977	0.792	Moderately positive perception of price advantage.
Service Quality (SQ)	3.2955	0.806	Slightly above neutral perception.
Convenience (CON)	3.8131	0.802	Positive perception of convenience.
Subjective Norms (SN)	3.6919	0.702	Positive social influence.
Product Guarantee (PG)	3.2121	0.560	Slightly above neutral perception.
Product Variety (PV)	3.5657	0.689	Positive perception of variety.
E-commerce Adoption (ADOPT)	3.6667	0.862	Positive adoption intention.

[Note: Scale: 1=Strongly Disagree to 5=Strongly Agree.]

The mean scores reveal that Consumer Resources (μ=4.04) and Convenience (μ=3.81) received the highest levels of agreement, suggesting that the sampled users feel adequately equipped for online shopping and strongly value its convenience. The dependent variable, Adoption Intention (μ=3.67), also shows a positive leaning. Perceived Risk (μ=3.00) sits exactly at the neutral point, indicating neither strong agreement nor disagreement with risk statements, which is an interesting finding for a developing market context.

4.5. Reliability Analysis

The internal consistency of the multi-item scales used to measure each construct was assessed using Cronbach's Alpha. As shown in Table 4, the reliability coefficients for all constructs exceed the recommended threshold of 0.70 (Nunnally & Bernstein, 1994), ranging from 0.72 to 0.89. This confirms that the measurement instrument was reliable, with items within each scale consistently measuring the same underlying concept.

Table 4: Reliability Statistics (Cronbach's Alpha)

Construct	Cronbach's Alpha (α)	No. of Items	Interpretation
Website Factors (WF)	0.82	5	Good Reliability
Perceived Risk (PR)	0.79	4	Acceptable Reliability
Service Quality (SQ)	0.85	4	Good Reliability
Convenience (CON)	0.88	4	Good Reliability
Price (PRI)	0.81	3	Good Reliability
Product Variety (PV)	0.76	3	Acceptable Reliability
Consumer Resources (CR)	0.72	4	Acceptable Reliability
Subjective Norms (SN)	0.83	3	Good Reliability
Product Guarantee (PG)	0.89	4	Good Reliability
Adoption Intention (ADOPT)	0.86	4	Good Reliability

4.6. Multiple Regression Analysis

To test hypotheses H1 through H9, a standard multiple regression analysis was performed with E-commerce Adoption Intention as the dependent variable and the nine factors as predictors.

4.6.1. Model Summary and Overall Fit

The regression model was statistically significant, as evidenced by the ANOVA results ($F(9, 56) = 9.719$, $p < .001$). This indicates that the combination of the nine independent variables reliably predicts adoption intention. The model summary, presented in Table 5, shows an R^2 value of .610 and an Adjusted R^2 of .547. This means that approximately 54.7% of the variance in Bangladeshi consumers' e-commerce adoption intention can be explained by the nine factors included in the model, which represents a substantial explanatory power in behavioral research.

Table 5: Model Summary

R	R^2	Adjusted R^2	Std. Error of the Estimate
.781	.610	.547	.58017

4.6.2. Significance of Individual Predictors

The coefficients table (Table 6) details the unique contribution of each predictor variable. The analysis reveals a mixed set of significant and non-significant relationships.

Table 6: Regression Coefficients

Predictor	Unstd. B	Std. Error	Std. Beta (β)	t-value	*p*-value	Significance
(Constant)	-0.791	0.972		-0.814	.419	
Website Factors (WF)	-0.401	0.170	-0.273	-2.358	.022	SIGNIFICANT
Perceived Risk (PR)	0.192	0.128	0.141	1.500	.139	Not Significant
Consumer Resources (CR)	0.140	0.229	0.056	0.610	.545	Not Significant
Price (PRI)	0.294	0.125	0.270	2.352	.022	SIGNIFICANT
Service Quality (SQ)	-0.168	0.151	-0.157	-1.114	.270	Not Significant
Convenience (CON)	0.431	0.143	0.401	3.011	.004	SIGNIFICANT
Subjective Norms (SN)	0.457	0.167	0.372	2.739	.008	SIGNIFICANT
Product Guarantee (PG)	0.282	0.176	0.183	1.600	.115	Not Significant
Product Variety (PV)	0.007	0.116	0.006	0.064	.949	Not Significant

[Dependent Variable: E-commerce Adoption Intention (ADOPT)]

Key Findings from Coefficients:

1. Significant Positive Predictors: Convenience (β = 0.401, p= .004), Subjective Norms (β = 0.372, p= .008), and Price (β = 0.270, p = .022) emerged as strong, statistically significant positive drivers of adoption intention. For every one unit increase in the perception of convenience, adoption intention increases by 0.401 standard deviations, holding other factors constant.
2. Significant Negative Predictor: Website Factors (β = -0.273, p = .022) showed a significant *negative* relationship. This counter-intuitive result suggests that in this sample, poorer perceptions of website quality are associated with *higher* reported adoption intention, or vice-versa. This may indicate that early adopters are tolerating poor website experiences due to the compelling draw of other factors (like price and convenience), or it may reflect a measurement or model specification issue requiring further investigation.
3. Non-Significant Predictors: Perceived Risk, Consumer Resources, Service Quality, Product Guarantee, and Product Variety did not show a statistically significant unique relationship with adoption intention in this model (p > .05).

4.7. Hypothesis Testing Summary

Based on the regression results, the ten research hypotheses are tested as follows. The outcomes are synthesized in Table 7.

Table 7: Hypothesis Testing Results

Hypothesis	Relationship Tested	Beta (β)	p-value	Result
H1	Website Factors → Adoption	-0.273	.022	Supported (but direction is negative)
H2	Perceived Risk → Adoption	0.141	.139	Not Supported
H3	Service Quality → Adoption	-0.157	.270	Not Supported
H4	Convenience → Adoption	0.401	.004	Supported
H5	Price → Adoption	0.270	.022	Supported
H6	Product Variety → Adoption	0.006	.949	Not Supported
H7	Consumer Resources → Adoption	0.056	.545	Not Supported
H8	Subjective Norms → Adoption	0.372	.008	Supported
H9	Product Guarantee → Adoption	0.183	.115	Not Supported
H10	Demographics → Adoption	*Tested via ANOVA/t-test*		Partially Supported

[Note: H10 required separate ANOVA/t-test analysis on demographic groups. Preliminary analysis showed significant differences in adoption intention based on age and income groups, but not for gender in this sample.]

Summary of Hypothesis Outcomes:

- Supported: H1 (Website Factors), H4 (Convenience), H5 (Price), H8 (Subjective Norms).
- Not Supported**:** H2 (Perceived Risk), H3 (Service Quality), H6 (Product Variety), H7 (Consumer Resources), H9 (Product Guarantee).

4.8. Additional Analysis: Demographic Influences (H10)

To test H10, the effect of demographic variables was tested individually. The independent samples t-test did not find a statistically significant difference in male (M=3.71, SD=0.91) versus female (M=3.61, SD=0.80) respondents in terms of adoption intention; t(64) = 0.502, p =.617. Nevertheless, an ANOVA test revealed that there was a

significant difference in age group on adoption intention, F (3, 62) = 4.12, p =.010, with 20-25 age group having the highest mean intention. Likewise, the level of income also reflected a considerable impact, F (4, 54) = 3.45, p =.014. Thus, the hypothesis H10 is partially justified, and the age and income are the key demographics that affect the influence, however, not gender in the sample considered.

4.9. Chapter Summary

The research has given clear empirical data regarding the factors that prompt the adoption of e-commerce in the sampled Bangladeshi setting. Regression model explains a lot with the convenience, subjective norms and price being the highest positive drivers. The minus indication of the elements of the websites is a subtle result that needs further discussion in the commentary. The lack of significant effects of the perceived risk, service quality and the quality of products indicates that in this group of relatively young, educated, and experienced users, these variables are not the major obstacles or incentives as some current literature believes. In the next Discussion chapter, these results will be interpreted by the current literature and the socio-economic background of Bangladesh.

5. Discussion

5.1. Interpretation of Key Findings

The empirical research indicates that there is a clear hierarchy of drivers of e-commerce adoption intention among the sampled Bangladeshi consumers. Regression model that explains 54.7% of the variance shows that although the suggested framework can explain the adoption decisions significantly, it does not imply that the choices should be made under the influence of a wide range of factors that have the same weight, but rather by a small number of key motivators.

The fact that Convenience (β = 0.431, p =.004) is the best predictor is consistent with the international discourse that makes e-commerce an answer to time shortage and logistics (Raman, 2019). This observation acquires greater importance in the Bangladeshi context. Big cities such as Dhaka and Chittagong have terrible traffic jams and it is physically tiring and time-consuming to go on the shopping trip traditionally. The value of being able to do the business of browsing, buying and delivering goods without leaving the home or office is that of a certain power. This finding supports the study conducted by Rao et al. (2018) in the adjacent country, i.e., India, where convenience turned out as the key motivator of female customers, which indicates a regional trend, according to which the advantages of digital shopping in the context of practicality are extremely likely to appeal to the Indians in large megacities.

It is also impressive that the impact of Subjective Norms (β = 0.372, p = .008) is high, which highlights the great impact of social networks in the collectivist society. This result is very convincing due to the theoretical focus of the Theory of Planned Behavior (Ajzen, 1991) on normative beliefs. In Bangladesh where family and community relations are the most important ones in defining social identity, new behaviors and technological choices are not typically made individually. The perceived uncertainty of online transactions is lowered by a positive impact of peers, family members, and social media relationships that can be considered a critical trust surrogate. This is in line with studies by Tarhini et al. (2018) in Jordan, another collectivist culture; social influence was one of the main determinants of adoption. It implies that the marketing initiatives based on the functional benefits might be not very effective as compared to those based on the social evidence, testimonials, and support of the community.

The high positive correlation with Price (β = 0.270, p =.022) once again supports the relevance of economic value in a price-sensitive market. This observation is proportional to the fact that people are very sensitive to online promotions and discounts as Hanaysha (2018) notes. To a big proportion of the Bangladeshi population, a discretionary income is constrained and therefore cost is a major purchase filter. A more efficient market is intrinsically supported by e-commerce platforms which allow sellers to be grouped and thus price comparisons easily. Price is also important as the indicator of how competitive the industry is because discounting and flash deals are utilised by such websites as Daraz on a regular basis, teaching people to anticipate financial benefits over the Internet. But this finding also poses a possible sustainability challenge where price rivalry will lead to average down of the margins and the inability to invest in some other quality aspects.

The hardest to explain result is the high negative correlation with Website Factors (β = -0.273, p =.022), which directly opposes our original hypothesis (H1) and much of the existing literature (e.g., Aslam et al., 2019; Ocloo et al., 2018). This paradoxical finding does not mean that bad websites lead to adoption. Instead, it hints at a number of subtle meanings. First, it can mean that the existing group of adopters is strongly driven by the benefits of the core (convenience, price, social approval) and is thus ready to accept suboptimal websites experience- the motivated cognition in which the end justifies the means. Second, it may indicate the problem of measurement: when considering the website factors, both entry level functionality and advanced capability may be included, therefore the respondent might be responding negatively to a disproportionately complicated or Westernized appearance that is not particularly relevant to the local customs. The plain, easy to use interface (such as that which imitates the look of Facebook) could be better than a technically advanced and unknown interface. Third, this correlation could be contextualized by the popularity of social commerce. When a large percentage of transactions are triggered via Facebook pages or Instagram messages, the official site of the Web site becomes a back-up touchpoint of payment or logistics and loses its perceived relevance in the total adoption calculus.

5.2. Explaining Non-Significant Findings: Contextual and Methodological Insights

The insignificance of some of the assumed factors, too, is quite instructive, and it makes difficulties with presumptions commonly made about obstacles to e-commerce in developing economies.

Perhaps the most notable difference in the literature is that the lack of a significant correlation with Perceived Risk (p =.139) is explained by the fact that risk is always listed as a significant obstacle in the literature (Guru et al., 2020; Aboobucker, 2019). This may be attributed to various mitigating forces that are particular in the Bangladeshi market. The first is the Cash-on-Delivery (COD) method of payment that is clearly dominant and is very effective in passing the financial risk between the customer and the seller. Second, the social commerce paradigm in which the commerce is frequently affected through the friends of known page admins or personal referrals introduces commerce into established networks of trust, lowering the performance and social risk. Third, in the case of the sampled demographic, which was young, educated, and knowledgeable internet users, the digital interactions might already be normal, reducing the overall nervousness of online transactions. This observation indicates that risk in the form of cultural and procedural adjustments has been managed by the early adopters in Bangladesh to engineer risk out of the transaction.

The nonsignificance of Service Quality (p = .270) and Product Guarantee (p =.115) can point out that they are not differentiators, but table stakes. Consumer demands of a post-sale service and guarantee could be equally low in a relatively new market, or vice versa, such that a basic standard may be met by the majority of larger platforms, and cannot account for the difference in adoption intention. It could also be the case that these factors are only salient following a negative experience (some type of salience by absence), and the survey questionnaire measured general attitudes.

The outcome of Product Variety (p =.949) indicates that the fundamental appeal of e-commerce is not the unlimited choice but the access and convenience in this sample. That is to say that consumers might prefer to have options that they can always trust upon to locate particular items required more than to be confronted with a host of choices. This is in line with the practical consumption trends normally witnessed in the developing markets where shopping is more of necessity and not recreation.

Lastly, the fact that Consumer Resources is not significant (p =.545) could as well be due to the sample itself. The mean score of 4.04 shows that there was uniformity in the responses given by the respondents about their sufficient access to the internet, devices and skills. This factor can be a decisive obstacle at the population level, i.e. excluding the unresourceful off the digital economy altogether, yet at the already-connected sample it was captured in this study, it does not make a difference.

5.3. Theoretical Implications: Contextualizing Adoption Models

The results of these findings lead to a need to refine the mainstream technology adoption models to the Bangladeshi context. The findings support the view of a hierarchical-of-effects model where various factors act at varying levels.

- The dominant Drivers (Motivators): It seems that the major active drivers that draw consumers to the adoption include convenience, Subjective Norms, and Price. They have a good positive impact that remains similar in all settings but is enhanced by the local situations (traffic, collectivism, price sensitivity).
- Hygiene Factors (Baseline Expectations): Website Factors in their negative manifestation can serve as a hygiene factor. Unpleasant experiences on the web can be actively discouraged (a barrier), but satisfactory minimum level of usability might not, in and of itself, be a powerful incentive. This is in accordance with Two-Factor Theory by Herzberg that is applied to digital interfaces.
- Neutralized Factors: The perceived risk seems to have been neutralized when it comes to this group of adopters due to market innovations such as the COD and social trust systems. This questions the perceived universality of risk as a constraint as well as emphasizing the potential of institutional and social adaptation to redefine theoretical relations.
- Latent Factors: Service Quality, Guarantees, and Variety can be latent factors, which are significant to the satisfaction and retention, yet not to the initial adoption decision of early adopters made due to core utility.

This reconceptualization implies that the Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB) should be complemented with the knowledge of the local market modifications and the order of needs hierarchy in a particular socio-economic environment.

5.4. Practical and Managerial Implications

The findings provide actionable advice to e-commerce companies, entrepreneurs and policymakers in Bangladesh.

In the case of E-commerce Platforms and Sellers:

1. Doubled Up on Core Value propositions: Invest tirelessly in logistics and delivery chains to get the convenience advantage secured and marketed. At the same time, devise pricing strategies and promotions that do point to real savings. These are the main drivers of your growth.
2. Engineer Social Proof: Think social profoundly in the platform. Easy user reviews, ratings and sharing. Create affiliate or referral marketing schemes which reward word-of-mouth. Influencer partnerships and community building should be a top priority of marketing budgets instead of generic advertising.
3. Use a Friction-First Design Philosophy on Websites: Don't urge to be feature-filled and complicated with your designs, go towards speed, simplicity and familiarity. Make it lean and mobile first. It must be aimed at making a purchase as pain-free as possible, rather than being technologically flashy.
4. Understand the Social Commerce Reality: Formal platforms are to think on how to relate or learn form the social commerce ecosystem. It might involve building smooth storefronts to facebook sellers, new hybrid online-offline trust infrastructure, or even new tools to support social selling.

For Policymakers and Industry Advocates:

1. Social Media as Formal: The popularity of social media as a means of commerce is an opportunity. Efforts to softly bring these micro-entrepreneurs into the formal sector, by making registration easier, training them on digital literacy and providing access to formal logistics and payment gateways might help kick-starter market growth and protect consumer rights.
2. Invest in Physical and Digital Infrastructure: The convenience factor is tied to the quality of internet and effective logistics. A basic component to maintaining growth is investing in the broadband penetration and national delivery infrastructure (including addressing) both publicly and privately.

3. nurture Trust with Light-Touch Regulation: Relationships with trust in this sample were perceived on the low risk approach, but to establish the long-term trust, dispute resolution and consumer protection mechanisms are needed. It is essential to create a moderate regulation system that does not suppress innovation but ensures protection of the consumers.

6. Conclusion, Limitations, and Future Research

6.1. Conclusion

The research paper was aimed at examining the key drivers of Business-to-Consumer (B2C) e-commerce acceptance among consumers in Bangladesh, which is an important knowledge gap in terms of context-specific empirical research in the fast-changing digital market. Following a unified conceptual framework that combined available theories of technology adoption with the factors that are specifically pertinent to emerging economies, the study presents empirically informed information that not only substantiates but also refutes the current knowledge of digital consumer behaviour.

The review of the analysis shows that all hypothesized factors do not have equal impacts on the adoption of e-commerce in Bangladesh but rather it is the specific hierarchy of considerations that determines its adoption. The most influential predictor came out as convenience and it highlights the importance the Bangladeshi consumers accord time saving and logistics convenience in a world that has made traditional shopping very strenuous both physically and time wise. This observation is consistent with the global trends but it is magnified by the local circumstances of urban overcrowding and infrastructure bottlenecks.

The other factor that was equally important was that of the high influence of Subjective Norms, which made one see the immense role of social networks and community influence in a collectivist cultural setting. The discovery supports the need to incorporate social dynamics in the technology adoption models when applied to the societies where a communal bond is very strong in influencing individual decisions. The role of Price as a key variable also augments the economic rationality of adoption in an economic market which is price sensitive, and consumers are seeking value and financial benefit in the digital medium.

The most complicated fact is related to Website Factors that showed the striking negative connection with adoption intention. This paradoxical finding implies that in the context of the current user base of adopter's core value propositions (convenience, social validation, price) might be more influential than interface shortcomings or that the quality of websites might act as a hygiene factor that does not necessarily encourage adoption but where the lack of it prevents it. This makes simple implementations of technology acceptance models problematic, and suggests that more detailed insights into the interactions between various factors, in particular adoption situations, are needed.

The lack of significance of many other theorized variables, including the Perceived Risk, provide important clues of how marketization such as Cash-on-Delivery payment systems and social commerce have been integrated into trusted networks and successfully reduced the conventional obstacles to digital transactions uptake. The implication of this observation is that contextual innovations have the potential to radically transform the theoretical relations that have been previously put into place in other markets.

Theoretically, this study is one of the contributions to the body of literature on technology adoption in developing economies, which helps to prove how global constructs take local forms of varying relative significance. It helps to keep the relevance of the core theories of adoption and emphasizes the importance of adapting these theories to the situation and the opportunity of local innovations in the market to transform the relationships established.

6.2. Limitations

Although this research offers an important contribution, one must admit that it has several limitations that should be considered when drawing conclusions based on its results:

1. Sample Size and Representativeness: The article used a sample of 66 respondents, which is adequate to do preliminary regression analysis, but the sample size does not provide as much statistical power and generalizability of the results. The demographic composition of the sample (young (71.2) and educated (75.8) and probably urban consumers) suggests that it is not representative of the rest of the Bangladeshi population, especially the older, less educated, or rural population which may have different barriers and motivation.
2. Sampling Method: Convenience sampling is used, which is required due to practical reasons, which may be a source of selection bias. The respondents were recruited via the Internet, which inevitably narrowed the sample to the group of people who are already familiar with the digital world and, thus, may be more favorable to e-commerce than the general population is. This restricts the generalization of the findings to the non-internet users or those who have negative previous experiences.
3. Cross-Sectional Design: The research will record visions and intentions at one point in time. The adoption of e-commerce is not a constant process and what influences the initial adoption may not be the same as that which influences subsequent use or greater adoption. Longitudinal information would give us a better picture of the development of these relationships over time.
4. Limitations on measurement: Although the scales were introduced in their established versions, it is possible that certain constructs have failed to measure their subtle expressions in the Bangladeshi situation. Incidentally, the number of dimensions incorporated in the scale, such as Website Factors, can have varied impacts; and, the local-specific dimensions of Perceived Risk that might not have been represented by the adopted scale.
5. Omitted Variables: The model accounted 54.7% of the variance meaning that there are other factors that affect adoption decisions but which were not part of this study. Some of the possible omitted variables are: cultural factors on a Bangladesh basis, platform specifics, marketing exposure and macroeconomic factors.
6. Common Method bias: Like any other self-reported survey data, data that was collected using a single instrument is prone to common method bias because the relationships between variables may be overstated because of the measurement method, and not because of underlying relationships.

6.3. Future Research Directions

Continuing on the results of this study, along with its limitation, a number of viable avenues of future research can be identified:

1. Increased and Diluted Sampling: Future research needs to use bigger and stratified random samples, which would be more representative of the various Bangladeshi population in terms of age, education, income, and geography. There should be special focus on the underrepresented population groups like older adults, rural population and lower-income groups to know how the adoption factors differ with the various segments of population.
2. Mixed-Methods Approaches: Supplementing quantitative survey with qualitative approaches (interviews, focus groups, ethnographic observation) would allow getting more insight into the reason behind the statistical relationship. The qualitative methods may especially shed some light on the complicated association with the elements of the website and social procedures underlying the subjective norms.
3. Comparative Studies: The adoption factors in various developing economies in South Asia (e.g., Bangladesh, Pakistan, India, Sri Lanka) would be compared to identify country-specific trends and findings that can be generalized to the region. These comparisons might demonstrate the influences of various regulatory settings, payment systems, and cultural terms on the dynamic of adoption.
4. Platform-Specific Studies: Future studies may consider how both the factors of adoption depend on the type of e-commerce platform, including dedicated websites (Daraz), social commerce (Facebook/Instagram stores), mobile app, and cross-border platforms (Amazon, AliExpress). Various platforms might trigger varying consumer interests and drives.
5. Researching New and Emerging Variables: Future studies need to examine other variables that may be applicable to the Bangladeshi context such as; trust in digital payment systems outside of COD; the role of mobile financial services (bKash, Nagad); the role of digital literacy and skills training; the role of localized

content and language interface; and the role of return policies and after-sales service in establishing long-term trust.

6. Longitudinal Designs: Studies that followed the same consumers over time as they become accustomed to the activity of e-commerce would show how the relative weighting of different variables would change, i.e., whether perceived risk declines and service quality expectations rise with experience in the use of the service. This would give a clue as to the drivers of not only initial adoption but further engagement and loyalty.
7. Behavioral and Experimental Approaches: These methods would be useful in offering more causal information than the correlational survey data alone: by introducing the techniques of behavioral economics, like experiments investigating the impact of various framings of risk or price or social proof on adoption intentions, one would gain more causal information.
8. Policy and Intervention Studies: The research that could be evaluated to measure the effectiveness of various policy interventions (digital literacy programs, consumer protection rules, infrastructure investments) in the question of e-commerce adoption would be a useful piece of evidence to be available to policy-makers interested in producing parallel progress on inclusive digital markets.

The directions discussed can be used in the future to develop a more in-depth, detailed, and practical picture of e-commerce adoption in Bangladesh and other emerging digital economies to serve a dual purpose in academic and practical approaches to the inclusion of digital economies and their fast-track.

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