



Growth and Challenges of E-commerce in Pakistan

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ABSTRACT

The e-commerce has become a revolution in the Pakistani economy and has transformed the classical business system, customer habits, and market access. In the past twenty years, the activities of internet penetration, mobile phone networks, digital payment systems, and transportation systems have increased at a very fast rate accelerating growth in online trading in the country. The young population of Pakistan and the rising popularity of social media sites have also contributed to increasing demand of online shopping, digital stores, and service-oriented e-commerce methods. The sector is also experiencing major problems despite this development such as poor digital infrastructure, distrust of online business, cyber vulnerability, lax regulation, low financial inclusion, and logistical inefficiencies. This research paper is a critical appraisal of the development trend of online trading in Pakistan and finds the key challenges that have impeded the sustainable development of online trading. The research applies the mixed-method analysis to examine the secondary data, policy reports, industry reports, and empirical data to evaluate the market trends, consumer adoption, and structural limitations. The results underline the fact that e-commerce has great potential to lead to the economic growth, employment, and inclusion of financial services; however, in order to achieve success in the long-term, the strategic policy changes, development of infrastructure, and mechanisms of trust are necessary.

Introduction

E-commerce, which is described as the process of buying and selling products and services via electronic networks, specifically the internet, has emerged as one of the new sources of economic development in developed and emerging economies (Laudon and Traver, 2020). E-commerce has changed the face of traditional commerce in the world as it has made business transactions cheap, markets reach wider and businesses are able to operate across geographical borders. E-commerce is particularly important in developing countries through the creation of opportunities to small and medium enterprises (SMEs), better access to goods and services by consumers, and digital inclusion (UNCTAD, 2021). Pakistan is a developing economy with the fast-growing population and increasing digital connectivity, where the e-commerce sector has a significant growth in the last 20 years.

The history of e-commerce in Pakistan dates back to the early 2000s when there were few online platforms and consumers were not aware of the e-commerce. The use of internet was very low, the online payment systems were not well-developed, and no one trusted any online transactions (Ahmed & Ahsan, 2011). Nonetheless, it is now a different scenario since 2010 because of the development of information and communication technologies (ICTs), growth of broadband and mobile internet services, and the popularity of smartphones. The Pakistani Telecommunication Authority (PTA, 2023) states that the number of internet users in Pakistan has already exceeded 125 million which is an excellent start in the development of online enterprises. This electronic revolution has made possible numerous e-commerce formats such as the business-to-consumer

(B2C), business-to-business (B2B), consumer-to-consumer (C2C), and social commerce on such platforms as Facebook, Instagram, and WhatsApp.

Changing consumer behavior is also closely connected with the rapid development of e-commerce in Pakistan. The trend of urbanization, the increase in literacy rates, and more exposure to the global markets have promoted the preference of convenience, diversity, and competitive prices presented by online platforms by consumers (Khan and Faisal, 2020). Large e-commerce companies like Daraz, Foodpanda, and OLX have played an important role in encouraging the consumer uptake through provision of cash-on-delivery offers, friendly return policies and localized marketing techniques. Moreover, the COVID-19 crisis served as a driver of e-commerce adoption since lockdowns and social distancing restrictions compelled consumers and organizations to change to online transactions (World Bank, 2022).

Although there are such nice aspects, the upward push of e-trade in Pakistan isn't held with out problems. The region continues to be confronted with structural and institutional limitations that restrain the whole ability of the region. The absence of client agree with withinside the on-line transactions is a number of the maximum extreme obstacles, and it's far due to elements of fraud, facts security, and occasional high-satisfactory of products (Raza et al., 2018). Moreover, the economic surroundings in Pakistan continues to be cash-centered, with little utilization of credit score playing cards and virtual wallets, proscribing the improvement of on line charge structures which are secure. The e-trade operations also are complex via way of means of logistical inefficiencies including insufficient transportation infrastructure and the demanding situations of last-mile delivery, particularly withinside the rural and far off regions (Hameed and Naveed, 2019).

Policy problems and law also are giant problems that outline the e-trade surroundings. Irrespective of the diverse projects brought through the Government of Pakistan, consisting of the Digital Pakistan Policy and e-trade frameworks, there are nonetheless gaps withinside the regions regarding customer protection, taxation and facts governance, and cross-border trading (Ministry of Commerce, 2020). This has brought on uncertainty to groups and traders because the loss of large and well-carried out policies is probable to slow down the boom of the quarter. In addition, a loss of virtual literacy amongst customers and small corporations is likewise an impediment to using e-trade answers in a large-scale manner.

The e-trade improvement in Pakistan has possibilities in addition to risks, in phrases of socio-monetary elements. On the only hand, e-trade could have the capability to diversify an economy, create new jobs, empower girls economically, and beautify the improvement of SMEs. Conversely, the unequal distribution of virtual infrastructure can similarly beautify the virtual hole among city and rural residents, which will increase social and monetary disparities (UNDP, 2022). Thus, it is crucial that policymakers, businesses, and researchers studying e-commerce should know the dynamics of its growth and issues that can be encountered to maximize its benefits and reduce the possible disadvantages.

This study aims to discuss the main characteristic of the e-commerce development and e-commerce challenges in Pakistan with the help of studying the market, technology, consumer behavior, and policy framework. In particular, the paper will seek to determine the major factors that have led to the growth in e-commerce and critically examine the structural, technological, financial and regulatory issues that the industry has experienced. This study is important because it is holistic considering the elements of economical, technological, and policy focuses to give an integrated view of the e-commerce ecosystem in Pakistan. It is believed that the results of this research will be useful to policymakers because they will have evidence-based information to draw effective policies on digital commerce, help companies determine opportunities and risk factors in their development, and add to the academic knowledge on e-commerce development in emerging economies.

Literature review

E-commerce has been a concept that has been internally researched in the realms of economic growth, technological advancement, and global growth. In the initial research, e-commerce has been explained as the process, which lowers transaction costs, improves market efficiency, and allows companies to access a larger customer base despite geographic barriers (Zwass, 2003). E-commerce is considered in developing economies as a driver of inclusive development by offering small and medium enterprises (SMEs) a chance and access to the global markets (UNCTAD, 2017). Literature on e-commerce

in Pakistan has been changing with the passage of time, as the technological infrastructure, consumer behavior as well as regulatory structures have changed.

Some of the studies have given importance to information and communication technologies (ICTs) as one of the enabling forces of the development of e-commerce. Molla and Licker (2005) reported that internet availability, network reliability, and technological readiness have a major impact on the adoption of e-commerce in the developing countries. With regards to Pakistan, Ahmed and Ahsan (2011) discovered that the online business was initially limited by the low penetration of broadband and high cost of the internet. Subsequent studies show that the increase in mobile broadband and low-cost smartphones has significantly enhanced the access to digital environments, hence the development of online environments (Khan and Faisal, 2020).

E-commerce research has given a lot of attention to consumer behavior. The element of trust is always reported as a determining factor of the online purchases. According to Gefen, Karahanna and Straub (2003), trust lowers the perceived risk and uncertainty during online transactions. Raza et al. (2018) in Pakistan found out that the trust of consumers towards e-commerce sites depends on the security of the Web sites, privacy, return policies, and cash-on-delivery. This low level of trust in digital payment systems and financial inclusion have been found in the prevalence of cash-on-delivery in Pakistan and has also been confirmed by World Bank (2020).

Financial infrastructure and payment systems are crucial in determining e-commerce ecosystems. Research works conducted by Humphrey, Pulley, and Vesala (1996) point out that effective electronic payment software is crucial to the scaling of online business. Cash-based transaction has also been found to be a significant problem to the development of e-commerce in Pakistan (State Bank of Pakistan [SBP], 2022). Nevertheless, according to the recent literature, some improvement is observed as a result of the introduction of branchless banking, mobile wallets, and fintechs, including Easypaisa and JazzCash (Ali et al., 2021). These advances have caused an upward push in virtual monetary inclusion, however this adoption isn't even unfold throughout the regions.

Another subject matter of literature is the logistics and deliver chain infrastructure. Customer pride and operational performance of e-trade require green shipping systems, warehousing, and last-mile connectivity (Hubner, Kuhn, and Wollenburg, 2016). According to Hameed and Naveed (2019), the negative street network, postal offerings deficits, and insurance in rural places are stated as the primary logistical demanding situations in Pakistan. These troubles are time-consuming, and that they make the transport manner extra expensive, which makes on-line shops much less competitive, now no longer best in huge cities.

The surroundings of guidelines and guidelines performs a chief function withinside the e-trade development. OECD (2019) indicates that it is important to have transparent rules concerning consumer protection, data privacy, taxes, and trade between countries to foster trust and investment. In Pakistan, the Ministry of Commerce (2020) has launched the framework of e-commerce policy that is designed to enhance digital trading and safeguard consumer rights. Nonetheless, researchers state that ineffective implementation is still associated with the absence of coordination among regulatory bodies and weak enforcement mechanisms (Saeed and Ahmad, 2021). Lack of holistic data protection legislation has also brought about concern on cybersecurity and misappropriation of personal information.

The contribution of SMEs in the development of e-commerce has been discussed in a wide manner. SMEs are thought to be the main mechanism of the Pakistani economy, as they provide a lot of influence on the number of people employed and GDP (SMEDA, 2021). Research indicates that e-commerce gives SMEs a cheaper marketing system, and it opens up larger market segments (Kurnia, Choudrie, Mahbubur, and Alzougool, 2015). Limited digital skills, awareness, and technological change resistance, in turn, are the factors that limit the uptake of e-commerce by SMEs in Pakistan (Iqbal et al., 2020). Capacity-building and training programs are thus emphasized as the key to the increased involvement of SMEs in online trading.

Social business has been a significant theme in recent literature. Facebook, Instagram, and WhatsApp are becoming popular platforms of buying and selling goods, especially among women entrepreneurs and home-based businesses (Yahia, Al-Neama, and Kerbach, 2018). Social commerce in Pakistan has reduced barriers to entry of informal sellers and allowed generating

revenue with little efforts (Batoool and Zulfiqar, 2022). Nevertheless, the fact that social commerce is informal also brings up some questions connected to taxation, consumer protection, and quality assurance.

The effects of external shocks especially the COVID-19 pandemic have been extensively discussed in current literature. The pandemic propelled the use of e-commerce across the globe as lockdowns and shutdown of the traditional retail outlets made the use of e-commerce a necessity (UNDP, 2022). In Pakistan, the study shows that online shopping of groceries, food delivery, and online payments have increased at a rapid rate during this time (World Bank, 2022). As much as this transition has revealed the potential and strength of e-commerce, it has also revealed structural challenges, including a lack of logistics capacity and digital disparities between urban and rural populations.

In terms of macroeconomics, e-commerce is associated with economic growth, creation of employment, and innovation. Freund and Weinhold (2004) maintain that the internet diffusion has a positive influence on growth of trade in terms of lowering the cost of information. In Pakistan, research indicates that e-commerce will have the potential to diversify and integrate exports and global supply chains in case of proper policies (UNCTAD, 2021). However, the issue of market concentration, control of major platforms, as well as the exclusion of small sellers who do not have the digital skills are still of concern.

To conclude, the current body of literature outlines that though Pakistan has achieved significant gains in the development of the e-commerce sector, several different challenges continue to be interrelated. The recurring themes are technological preparedness, consumer confidence, payment platforms, logistics, regulatory frameworks and development of human capital as important factors of growth. There are also gaps in the literature, especially the absence of extensive empirical research that regards these factors as a whole into a single analysis tool. This paper aims to fill in these gaps by giving a comprehensive analysis of the development and issues of e-commerce in Pakistan, based on theoretical knowledge and practical facts.

Methodology

The current research is based on the mixed-method research approach to discuss the development and issues of e-commerce in Pakistan. The mixed-methods design combines the methods of qualitative and quantitative approaches to give an in-depth insight into the research issue. This method is especially appropriate when the investigation is on digital commerce since it enables the researcher to examine the numerical trends in addition to concerning the contextual, institutional, and behavioral aspects (Creswell & Plano Clark, 2018). The combination of the secondary data analysis and the qualitative content analysis will guarantee the methodological rigor of the research, and increase findings validity.

Research Design

The look at takes a descriptive and analytical layout. The state of affairs of the e-trade in Pakistan and the route of its boom is defined in a descriptive manner, in phrases of marketplace size, utilization history, and technological changes. The analytical detail is aimed toward the identity and evaluation of fundamental issues, such as price systems, logistics, regulatory limitations, patron confidence, and on line infrastructure. The given layout fits the studies because the researcher will now no longer simply describe the developments however additionally seriously compare structural elements underlining the improvement of e-trade (Sekaran and Bougie, 2016).

Data Sources

The report is largely based on the secondary data sources since the research is macro-level. The secondary sources that were used to gather secondary data were credible national and international sources, such as government publications, policy documents, academic journals, industry reports, and databases. The most important sources are reports of the State Bank of Pakistan (SBP), Pakistan Telecommunication Authority (PTA), Ministry of Commerce, World Bank, United Nations Conference on Trade and Development (UNCTAD) and International Telecommunication Union (ITU). The searches of peer-reviewed

journal articles published since 2000 to 2025 were also actively reviewed to guarantee the coverage of both old and new views on the development of e-commerce.

Sampling and Selective criteria.

The selection of the relevant literature and reports was done using a purposive sampling method. The documents had to be included according to the following criteria: relevance to e-commerce, attention to Pakistan or other similar developing economies, rigor of the methodology used, and the authority of the publishing organization. The studies that were specifically focused on consumer behavior, online payments, logistics, policy frameworks, and SME involvement in e-commerce were given the priority. This selectivity allowed anchoring the analysis to the high-quality and context-related data (Yin, 2018).

Data Collection Procedure

The systematic review of the current literature and official statistics was used to collect data. The peer-reviewed articles were identified using keywords like e-commerce in Pakistan, Scopus, and Web of Science as academic databases. The official websites were used to access government and institutional reports, in order to have accuracy and authenticity. Data collected were all arranged in thematic categories that helped to analyze and interpret the data in a systematic manner.

Analytical Framework

The paper utilizes a thematic analysis design to examine the data collected qualitatively and its recurrent patterns and themes pertaining to e-commerce development and dilemma. Thematic analysis enables the researcher to detect, examine and describe trends in the data in a systematic fashion (Braun and Clarke, 2006). In the case of quantitative data, we can use descriptive statistical analysis to determine trends in the adoption of internet penetration, digital payments, and e-commerce transactions. Tables are used to summarize applicable signs and factor out the modifications with time, which enables to boom the readability and comparability.

Variables and Indicators

In order to assess the improvement of e-trade in Pakistan, diverse signs have been observed, consisting of the quotes of net and phone penetration, on line transactions, e-trade structures registration, and the usage of on-line virtual payments. The limitations have been taken into consideration primarily based totally on such signs as charge device safety, logistics, great of regulations, cybersecurity issues, and client trust. The signs were selected consistent with the superiority in their utility withinside the literature, and that they had been additionally selected regarding the Pakistani context (UNCTAD, 2021).

Validity and Reliability

In this research, making sure that validity and reliability have been critical elements to be taken into consideration. Data triangulation became extensively utilized via using data on numerous reasssets with the intention to lessen bias and boom credibility. As an example, the government

Table 1 affords key signs highlighting the boom of e-trade in Pakistan over time.

Indicator	Internet Penetration (%)	Smartphone Users (millions)	E-commerce Market Size (USD billion)	Digital Payment Users (millions)
2010	10	12	0.2	5
2015	18	35	0.6	15
2020	36	85	3.9	35
2023	55	110	7.7	64

Key Indicators of E-commerce Growth in Pakistan

The information surely display a wonderful correlation among virtual infrastructure improvement and e-trade boom. The growing range of virtual fee customers additionally displays slow enhancements in monetary inclusion, even though cash-on-transport stays the dominant charge method (SBP, 2022).

Challenges Facing E-trade Development

Despite sturdy increase indicators, the consequences display numerous continual demanding situations that prevent the sustainable improvement of e-trade in Pakistan. One of the maximum important demanding situations is purchaser accept as true with. Multiple research document that Pakistani customers stay skeptical approximately on line transactions because of issues over fraud, counterfeit products, and vulnerable go back policies (Raza et al., 2018). This loss of consider has confined the adoption of on-line price structures and multiplied reliance on cash-on-shipping, which increases operational expenses for organizations.

Another primary project is logistics and deliver chain inefficiency. Poor avenue infrastructure, insufficient warehousing facilities, and confined last-mile transport coverage, especially in rural areas, lessen carrier exceptional and consumer satisfaction (Hameed & Naveed, 2019). These logistical boundaries disproportionately have an effect on small and medium enterprises (SMEs), which lack the sources to broaden green shipping networks.

The findings additionally spotlight regulatory and coverage gaps as a sizeable constraint. Although the Government of Pakistan has delivered an e-trade coverage framework, implementation stays vulnerable because of confined coordination amongst regulatory our bodies and shortage of enforcement mechanisms (Ministry of Commerce, 2020). Issues associated with customer protection, taxation, and facts privateness preserve to create uncertainty for companies and investors.

Digital literacy and talents constitute every other principal project. A big section of the populace lacks the technical expertise required to interact successfully in on-line trade, both as customers or sellers (Iqbal et al., 2020). This virtual competencies hole limits the participation of SMEs and rural entrepreneurs, contributing to unequal get entry to to e-trade possibilities.

Comparative Analysis of Growth Drivers and Challenges

To higher recognize the stability among possibilities and constraints, Table 2 summarizes the important thing boom drivers and demanding situations of e-trade in Pakistan.

Table 2: Major Growth Drivers and Challenges of E-commerce in Pakistan

Growth Drivers	Challenges
Rising internet and smartphone penetration	Low consumer trust in online transactions
Youthful population and urbanization	Weak logistics and last-mile delivery
Expansion of online marketplaces	Cash-based economy and limited digital payments
Government digital initiatives	Regulatory gaps and weak enforcement
Growth of fintech and mobile wallets	Limited digital literacy and skills

The comparative evaluation suggests that whilst technological and demographic elements strongly assist e-trade growth, institutional and structural weaknesses considerably constrain its potential. This imbalance shows that coverage and infrastructure reforms are critical for long-time period sustainability.

Discussion of Finding

The effects acquired on this studies are consistent with the cutting-edge literature approximately the improvement of e-trade in growing economies. As with all growing nations, the boom in e-trade in Pakistan is normally because of the usage of generation and moving tastes of buyers (UNCTAD, 2021). Yet, such structurally entrenched issues as trust, infrastructure, and governance are even more issues in Pakistan than in developed economies.

The prevalence of cash-on-delivery is a symptom of not only the popularity of consumers but also structural flaws in the financial system. Although this form of payment has made it easier to adopt it at first, it restricts scalability and raises the risks of transaction to the business (World Bank, 2020). Furthermore, the geographical centralization of e-commerce in large cities can be used as an indicator of an existing digital divide between urban and rural regions.

In general, the findings indicate that the Pakistani e-commerce industry is in the critical development stage. Although the potential of growth is high, inability to contain the current challenges can hamper the growth and reduce the contribution of the sector in terms of economic development. It is thus necessary to have concerted efforts of the government, the private sector and financial institutions to promote a supportive and inclusive e-commerce ecosystem.

Discussion

The dialogue phase explains the findings of this examine withinside the context of the prevailing literature and theoretical perspectives at the e-trade improvement withinside the rising economies. The findings imply that the e-trade enterprise in Pakistan has done giant traits over the last years; this has been a skewed boom with restrained structural, institutional, and socio-monetary constraints. These effects are steady with preceding research that imply that, even though on line trade may be quick scaled with the assist of virtual technologies, the surroundings and right governance may be required to make certain its sustainable increase (UNCTAD, 2021).

Among the most important findings made, a strong connection between e-commerce growth and digital infrastructure warrants a mention. The greater usage of internet and smart phone has been a decisive factor to increase the online consumer base in Pakistan. This fact argues in favor of the authors of Freund and Weinhold (2004), who stressed that information barriers are minimized by the process of internet diffusion that provokes trade. In the case of Pakistan cheap mobile internet has played a crucial role in the adoption among the young consumers. Nevertheless, the concentration of the access to digital services in cities indicates ongoing imbalances implying that the growth of infrastructure is not enough without inclusive policies in digital services.

Consumer trust became a key position that affected the use of e-commerce. Although these online platforms are available, a significant number of consumers are still unwilling to take part in online transactions because of fears of fraud, data security and authenticity of products. It is a discovery that is in line with trust-based models of adoption of e-commerce suggested by Gefen et al. (2003). The massive use of cash-on-delivery also indicates the consumer preference as well as institutional flaws in payment systems. Although this mode of payment has made easy the preliminary expansion, it also raises the costs and risks of the businesses, restricting efficiency and scalability.

Another key constraint was found to be logistics and supply chain inefficiencies. Last-mile delivery, poor warehousing, and poor postal services have adverse effects on quality of services and customer satisfaction. SMEs are the most problematic in this situation because they do not have the resources to independently overcome logistical barriers. Other developing countries have also reported similar problems, with the infrastructure being a weakness to the competitiveness of online retailers (Hubner et al., 2016). The problem of logistics limitations is thus a vital one in terms of the development of e-commerce beyond the cities and the making it nationwide.

The regulatory and policy-related issues are also key factors in determining the e-commerce environment. Even though Pakistan has established policy frameworks to facilitate digital commerce, the implementation has been weak, and the coordination between the regulatory officials is low, which decreases its efficiency (Ministry of Commerce, 2020). There are no elaborate data protection and consumer protection rights provisions which also compromises trust in online platforms. The results indicate that regulation clarity and enforcement are the way to establish a stable environment to promote investment and innovation.

The second dimension also made by the discussion is the role of digital literacy and human capital. Lack of awareness and technical expertise of the consumers and small enterprises will limit meaningful interaction with e-commerce. This observation supports the claim that the implementation of technology should be supported by capacity-building efforts to

make socio-economic gains (Iqbal et al., 2020). Unless there is specific training and education, the e-commerce development can continue to be limited to a small group of the population, and this contributes to the digital divide.

On the whole, the discussion has shown that the e-commerce industry in Pakistan has a strong potential but it needs a coordinated and holistic way to address the challenges it is currently facing. The technological changes are not sufficient but the trust-building, the development of infrastructures, the reform of the regulations, and investment of the human capital are crucial as well. The results highlight the importance of government, the private sector, the financial institutions, and education organizations working together to provide an enabling environment to promote sustainable growth of e-commerce.

Recommendations

- Empower consumer protection legislation and make it a reality to establish confidence towards the online transactions.
- Create and adopt extensive data protection and cybersecurity laws.
- Incentivize the use of digital payments by use of incentives, awareness creation and fintech innovation.
- Enhance the logistics and last-mile delivery systems, particularly in undervalued and rural regions.
- Improve the cooperation between the regulatory authorities so that there is unity in the regulation of e-commerce.
- Empower SMEs via online education, monetary incentives, and integration of platforms.
- Invest in digital literacy and skills building using the education institutions and community programs.
- Foster partnerships between the government and the business world to increase e-commerce infrastructure and services.
- Encourage international e-commerce through ease of trade regulations and customs.
- Encourage inclusive online commercial regulations to lessen the urban-rural trade disparity.

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