# E-COMMERCE LANDSCAPE IN BANGLADESH : A CROSS-COUNTRY ANALYSIS

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***Abstract***

*In Bangladesh, millions of people now have access to the internet. This enables huge growth opportunity for both B2C and B2B e-commerce in the country. But the role of the internet in trade and commerce is still inadequate. Some other countries, which have started using internet at the same time period as Bangladesh, have progressed a lot in the field of e-commerce adoption whereas, Bangladesh is still lagging behind. Therefore, this study focuses on analyzing the current e-commerce adoption of the nation in comparison with some selected countries. To measure the position of Bangladesh, data were collected from secondary sources to make a comparison using three established indices. An FGD, composing e-commerce industry experts, was conducted to discuss and finalize the findings. The study found that, in almost all the indicators, Bangladesh's position is lower than most of the countries compared (either lowest or second lowest). The research also found factors, such as, poor infrastructure, digital divide, low internet security, lack of awareness, poor service delivery, etc., that obstruct achieving the expected growth in e-commerce. Thus, the study sets the foundation for future researches to be done in the field of e-commerce adoption in Bangladesh.*

***Keywords :*** *Account Ownership, Internet Penetration, Network Readiness Index, Online Shopping, Online Transaction*

***JEL Classification :*** *L81, L86, O33*

## 1. INTRODUCTION

E-commerce industry in Bangladesh was at its early stage with only 1% of total population and 8% of total internet users committing to online shopping at the end of 2018 (United Nations Conference on Trade and Development [UNCTAD], 2019). Primary reason of the slow spread of e-commerce in Bangladesh is the late legalization of online payments back in 2012 by Bangladesh Bank. However, since then, it has been a rapid boom. The foundations for such a rapid growth can be attributed to the increasing smartphone and internet penetration in the country. Recent market

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research by ResearchAndMarkets.com estimated Bangladesh's e-commerce market size to be around BDT 1.5 lakh crore by 2026, almost tripled from the 2021 figure of BDT 56,870 crore (Karim, 2022). According to e-commerce Consumer Association of Bangladesh (e-CAB), in 2022, there were more than 2,500 e-commerce platforms in Bangladesh, of which 1% are large businesses, 4% medium, and 95% small businesses (Karim, 2022). This indicates a much faster growth trajectory than previously suggested.

As per Bangladesh Telecommunication Regulatory Commission (BTRC), the total number of internet subscribers, which was 123.82 million at the end of December 2021, increased to 131.44 million at the end of November, 2023 (BTRC, 2023). The educated and tech savvy youth demography in Bangladesh has also been increasing who are considered the main targets of online shopping. Besides, during COVID-19 lockdown, e-commerce facilitated the mass people of Bangladesh a lot by providing opportunities to purchase their daily necessities and medicines. A lot of online sites flourished since then to offset the physical market into a digital one (UNCTAD, 2022). All these factors together have been contributing to the rapid proliferation of the e-commerce industry in Bangladesh.

However, comparing the e-commerce industry of Bangladesh with that of other countries, it can be seen that Bangladesh is still at an early stage and has many opportunities to explore. For example, Malaysia witnessed the introduction to internet in 1995 (Paynter & Lim, 2001) and within 2006, Malaysia had its first online retail platform named Lelong.my. Bangladesh, on the other hand, as mentioned before, only saw its first online retail platform in early 2013 when 'Akhoni.com' and 'Ajkerdeal.com' were introduced.

The e-commerce sector has seen unprecedented growth in 2020 since the outbreak of COVID-19, making more people inclined to online shopping (International Trade Administration, 2021). As of 2019, there were approximately 2,000 e-commerce sites and 50,000 Facebook pages which delivered almost 30,000 products every day (Khan, 2020). Only 15-20% of the deliveries were paid through mobile payment gateways and 80% of these deliveries were made in Dhaka, Chittagong, and Gazipur (Khan, 2020). It indicates how the overall reliance on e-commerce is lower in volume and only limited to certain areas. The dependence on e-commerce is still less compared to other countries. Also, recent statistics shows that, Bangladesh is still lagging behind in the field of e-commerce.

Although there exist studies on the e-commerce adoption for different countries (Merhi, 2021; Sadigov, 2020; Alderete, 2021), there is no comparative study on the progress of e-commerce in Bangladesh. Therefore, the objective of this study is to analyze the current e-commerce situation of Bangladesh to compare the e-commerce scenario with some countries which have started using internet service almost at the same time as Bangladesh. In doing so, this study uses some well-established indices, such as UNCTAD B2C E-commerce Index, ICT Development Index, and Network Readiness Index.

## 2. METHODOLOGY

This study is an exploratory research based on secondary data. To compare the e-commerce adoption scenario of Bangladesh, eleven countries were selected at first. The criterion for selecting those countries was the time period when they first started using internet service. A five-year time period from 1993 to 1998 was chosen in this regard. Based on that, Egypt, South Africa, Singapore, Pakistan, Malaysia, Sri Lanka, India, Thailand, Vietnam, Nigeria, and Indonesia were chosen. Then data were collected from different sources to make a comparison with the current e-commerce scenario of Bangladesh. To measure the position of Bangladesh, three indices have been used: UNCTAD B2C E-commerce Index, ICT Development Index (IDI), and Network Readiness Index. The UNCTAD B2C E-commerce Index measures an economy's preparedness to support online shopping. The index consists of four indicators: account ownership at a financial institution or with a mobile-money-service provider (percentage of population of 15 years or more), individuals using the internet (percentage of population), postal reliability index, and secure internet servers (per 1 million people).

The IDI is a composite index that combines 11 indicators into one benchmark measure that can be used to monitor and compare developments in ICTs between countries over time. These 11 indicators are grouped into three sub categories: Information and Communications Technology (ICT) Access, ICT Use, and ICT Skills.

The Network Readiness Index (NRI) is a framework, which assesses the factors, policies, and institutions that empower a country to fully leverage information and communication technologies for inclusive and sustainable growth, competitiveness, and well-being. The NRI framework consists of four variables: Technology, People, Governance, and Impact.

Finally, an FGD composing e-commerce industry experts was conducted to discuss and finalize the findings of the study. The conceptual framework of the study is shown in the figure below:

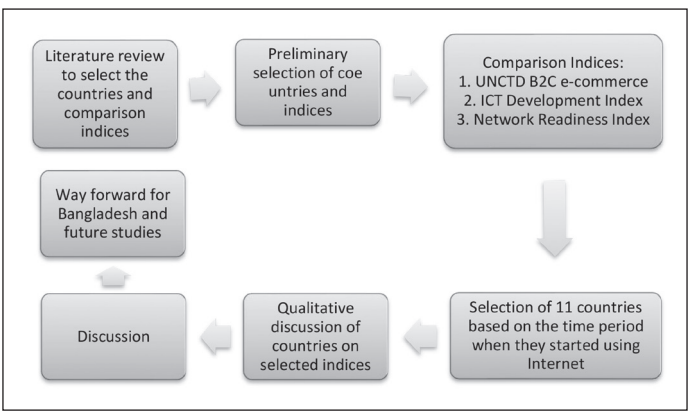


Figure 1 : Framework of the Study

## 3. INCEPTION OF E-COMMERCE

The emergence of e-commerce is closely intertwined with the advent of internet. Electronic Data Interchanges and teleshopping in the developed countries started during 1970s that paved the way for modern day e-commerce. However, online shopping only became possible when the internet was opened to the public in 1991 (Bryant, 2011).

E-commerce commenced its journey after 1995 in the developing countries like Egypt, South Africa, Singapore, Pakistan, Malaysia, Sri Lanka, India, Bangladesh, Thailand, Vietnam, Nigeria, and Indonesia when the rate of internet penetration was rising significantly. These countries began to get internet services throughout 1993-98. Egypt (Kamal, 2016) and South Africa (Top 500, 2017) became the first two nations among them to receive internet services in 1993 while Nigeria (Adomi, 2005) and Indonesia (Alo, 2018) were the latest to receive the service in 1998. Egypt initiated its e-commerce journey in 1997. Realizing the importance of information and technology at an earlier time, the government and private sector emphasized in promoting e-commerce. In this regard, the Internet Society of Egypt established its e-commerce committee to promote education and awareness of e-commerce in 1997 (Kamel, 2014)

Table 1 : Years indicating Internet Service First Provided and Initiation of E-Commerce in 12 Countries

| Name of the Country | Internet Services First Provided | Initiation of E-Commerce |
|---|---|---|
| Egypt | 1993 | 1997 |
| South Africa | 1993 | 1998 |
| Singapore | 1994 | 1996 |
| Pakistan | 1994 | 2001 |
| Malaysia | 1995 | 1998 |
| Sri Lanka | 1995 | 2002 |
| India | 1995 | 2004 |
| Thailand | 1996 | 2004 |
| Bangladesh | 1996 | 2006 |
| Vietnam | 1997 | 2001 |
| Nigeria | 1998 | 2010 |
| Indonesia | 1998 | 2011 |

*Source : Dawood (2019), Salman et al. (2013), Wong (2013), Rajapakse and Dissanayake (2004), Lane (2004), Assisi (2020), Binu (2019), Islam (2016), Protik (2019), Pham (2017), Oribi (2018), and Moore (2017)*

Malaysia and South Africa held the second position in terms of beginning their journey of e-commerce. E-commerce started in both countries during 1998. Kalahari.net by Naspers limited started its e-commerce operations in South Africa. E-commerce in

Malaysia flourished remarkably within a very short period of time by boosting the availability of internet services and usage of computers in households and offices. Lelong.com.my was the first e-commerce platform in Malaysia followed by eBay.

Internet services became available in India, Pakistan, Sri Lanka, and Bangladesh almost at the same period. However, Pakistan went ahead in initiating e-commerce in 2001. Felicity was the first online store that launched in 2001 and some of the early websites are Sophie, Symbiosed, and HomeShopping. E-commerce operation of Sri Lanka began in 2002, but it could not make much progress until recently and still has a long way to go. India received internet services in the same year as Sri Lanka in 1995. E-commerce was launched in 2004 and the new start-ups: Flipkart, Infibeam, Myntra, and Snapdeal started their operations from 2007.

Bangladesh first got internet access in June 1996. Cell-bazaar.com was the first e-commerce website inaugurated in 2006 which marked the beginning of e-commerce journey in Bangladesh. The growth of e-commerce sector was stimulated after Bangladesh Bank had granted permission to legalize online transactions in 2009 and the government had allowed the usage of international credit cards for purchases in 2013. Akhoni, Ajkerdeal, and Rokomari.com entered the market in 2013. Kaymu and Daraz emerged in 2015, but Kaymu merged with Daraz later on as it lost a huge amount of money in marketing for quick sales.

Nigeria and Indonesia began their expedition of e-commerce in 2010 and 2011 respectively. A branch of Kalahari.com, a successful South African online store, had been set up in 2010 in Nigeria. Devastated by the Asian Financial Crisis of 1997, Indonesia stepped into the world of e-commerce. Nevertheless, the country became one of the fastest growing economies in the world by overcoming the economic turmoil and financial contagion. Tokopedia, Shopee, and Blibli.com are some of the e-commerce companies that played a role in booming the e-commerce sector of Indonesia through attracting investment and attention from financiers overseas.

## 4. COMPARATIVE POSITION OF BANGLADESH

In terms of Compounded Annual Growth Rate (CAGR), Bangladesh has a high growth rate of 16.6% that shows a growth potential waiting to be unearthed. Egypt is the third highest populated country in Africa and has the highest number of internet users in the Arab world. Egypt has an annual growth rate of 27.3% which is the highest compared to other countries. The following figure shows the CAGR (2020-2024).

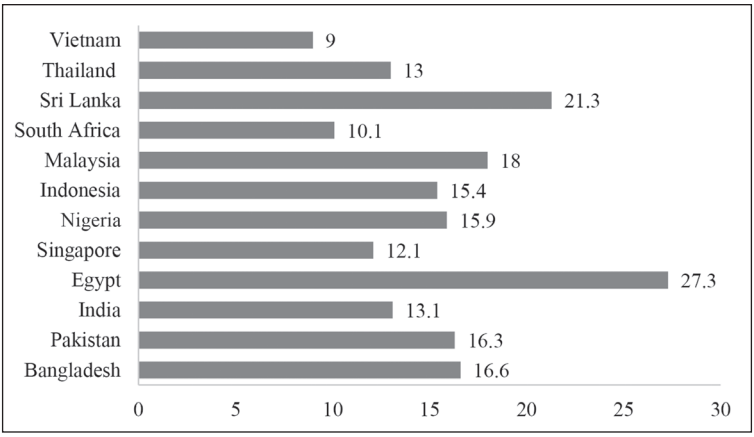


Figure 2 : Expected CAGR (%) of E-Commerce Market Size (2020-2024) of 12 Countries
*Source: Statista (2020)*

### 4.1 UNCTAD B2C E-Commerce Index

As mentioned earlier, the UNCTAD B2C E-Commerce Index measures an economy's preparedness to support online shopping. The index consists of four indicators: account ownership at a financial institution or with a mobile-money-service provider (percentage of population of 15 years or more), individuals using the internet (percentage of population), postal reliability index, and secure internet servers (per 1 million people).

Table 2 compares the ranking of the countries, which shows that Bangladesh's preparedness to support online shopping is very low compared to other countries and only better than Pakistan. This indicates that Bangladesh has a long way to go to prepare itself to reap the full benefits of the e-commerce industry.

Table 2 : UNCTAD B2C E-Commerce Ranking

| Country | UNCTAD B2C E-Commerce Index 2019 | UNCTAD B2C E-Commerce Index 2020 |
|---|---|---|
| Bangladesh | 103 | 115 |
| Egypt | 107 | 109 |
| India | 75 | 71 |
| Malaysia | 31 | 30 |
| Nigeria | 88 | 94 |
| Pakistan | 114 | 116 |
| Singapore | 3 | 4 |
| South Africa | 73 | 73 |
| Sri Lanka | 87 | 91 |

Table 2 (Contd.)

| Country | UNCTAD B2C E-Commerce Index 2019 | UNCTAD B2C E-Commerce Index 2020 |
|---|---|---|
| Thailand | 48 | 42 |
| Vietnam | 66 | 63 |

*Source : UNCTAD (2019); UNCTAD (2020)*

### 4.1.1 Account Ownership

One of the crucial factors of e-commerce is payment. Currently, 95% of all e-commerce transactions in Bangladesh occur through cash-on-delivery method (UNCTAD, 2020). This poses a risk as well as inconvenience specially for the e-commerce platform. Although MFS like bKash, Nagad, and DBBL Nexus has recently become popular forms of e-payment, Bangladesh still lags behind in this crucial factor compared to other countries. As Figure 3 shows, 50% of individuals in Bangladesh has an account at a financial institution or mobile-money service provider and this number is better than countries like Pakistan, Egypt, Nigeria, and Vietnam, but lags behind India, Malaysia, and Thailand.

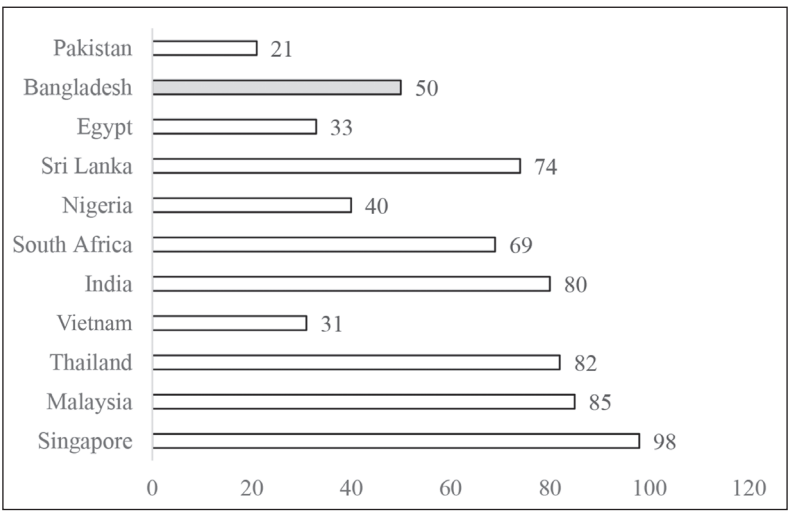


Figure 3 : Share of Individuals with an account in a Financial Institution or Mobile Money Service Provider (in %)

*Source : UNCTAD (2020)*

### 4.1.2 Internet Usage

Without internet, there is no e-commerce. So, increasing internet usage is absolutely crucial for a growing e-commerce industry. As of February 2020, the number of mobile connections per capita in Bangladesh was equivalent to 99 percent of the total population; the country ranks 8th in the world in terms of the highest number of mobile connections. But experts doubt, this is due to the usage of multiple mobile

numbers by a single individual. However, less than 20 percent had a smartphone. These numbers for mobile connections and smartphone usage are 65 percent and 45 percent, respectively, when the whole world is considered (Kemp, 2020).

Internet penetration in Bangladesh stood at 41% in January 2020. This percentage is 64%, 54%, and 96% in China, India, and the US, respectively (Kemp, 2020). Although Internet subscriptions in Bangladesh stood at almost 100 million, the broadband connectivity stayed at less than 6 million according to the data from the nation's regulatory body, BTRC. The household computer ownership in 2019 was less than 6 percent (International Telecommunications Union [ITU], 2020). As the figure below shows, the % of active individuals using the internet is the lowest in Bangladesh among all countries (UNCTAD, 2020). Although, there is a high penetration of internet in the urban and semi-urban areas, negligible portion of individuals are active users of the internet in rural areas of Bangladesh.

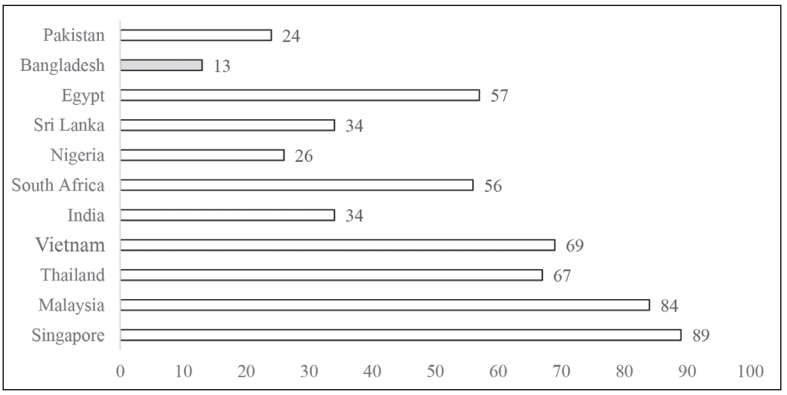


Figure 4 : Share of Individuals using Internet (in %)

*Source : UNCTAD (2020)*

### 4.1.3 Secure Internet Servers

Internet safety and security is another important parameter considered by the UNCTAD B2C E-commerce Index. For sustainable growth of the e-commerce ecosystem, it is essential to gain consumer trust and provide them with reliable and safe internet so that users feel comfortable making transactions online and are not vulnerable to online hacking and threats. The following figure shows Bangladesh scores better than Egypt only, in terms of providing secure internet servers whereas Singapore is providing almost 100% secure internet servers (UNCTAD, 2020). Measures need to be taken in this parameter by the government because as the e-commerce grows, it lures attention of hackers which makes the consumers' safety vulnerable and poses a risk on the overall image and trust on the industry.

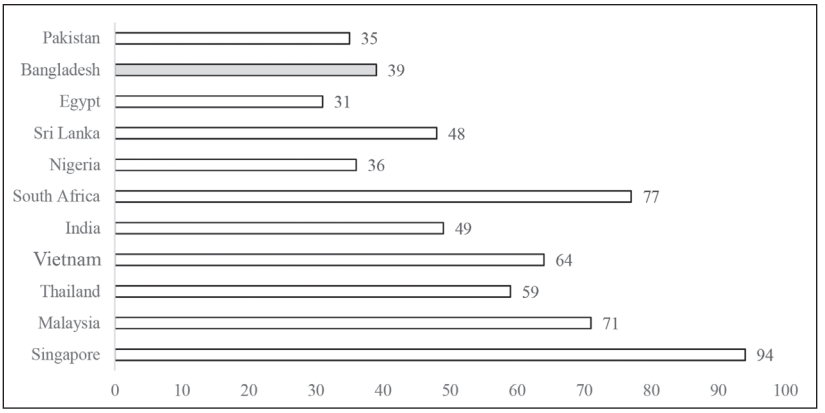


Figure 5 : Share of Individuals with Secure Internet Servers (in %)

*Source : UNCTAD (2020)*

### 4.2 ICT Development Index (IDI)

The IDI is a composite index that combines 11 indicators into one benchmark measure that can be used to monitor and compare developments in ICTs between countries over time. These 11 indicators are grouped into three sub categories: ICT Access, ICT Use, and ICT Skills:

a) ICT Access
   1. Fixed-telephone subscriptions per 100 inhabitants
   2. Mobile-cellular telephone subscriptions per 100 inhabitants
   3. International Internet bandwidth (bit/s) per internet user
   4. Percentage of households with a computer
   5. Percentage of households with Internet access

b) ICT Use
   6. Percentage of individuals using the Internet
   7. Fixed-broadband subscriptions per 100 inhabitants
   8. Active mobile-broadband subscriptions per 100 inhabitants

c) ICT Skills
   9. Mean years of schooling
   10. Secondary gross enrolment ratio
   11. Tertiary gross enrolment ratio

As the table below shows, Bangladesh was only one rank ahead of Pakistan in the IDI ranking in 2017 and 13 places behind India. Singapore, Malaysia, and Thailand are among the top 3 of the compared countries which was reflected in earlier indexes too (ITU, 2018). The recent data shows that Bangladesh has made some improvement, securing 129th position in 2023, being ahead of Nigeria and Pakistan only.

Table 3 : IDI Ranking of Different Countries

| Country | IDI Ranking 2017 | IDI Ranking 2023 |
|---|---|---|
| Bangladesh | 147 | 129 |
| Egypt | 103 | 98 |
| India | 134 | Data not available |
| Malaysia | 63 | 15 |
| Nigeria | 143 | 144 |
| Pakistan | 148 | 141 |
| Singapore | 18 | 2 |
| South Africa | 92 | 78 |
| Sri Lanka | 117 | 112 |
| Thailand | 78 | 38 |
| Vietnam | 108 | 77 |

*Source : ITU (2018); ITU (2023)*

This study focuses on two major components of IDI: ICT Access and ICT Use.

### 4.2.1 ICT Access

This sub-index captures ICT readiness and includes five infrastructure and access indicators (fixed-telephone subscriptions, mobile-cellular telephone subscriptions, international Internet bandwidth per Internet user, households with a computer, and households with Internet access). In 2017, Bangladesh had the lowest value in this parameter (3.05), even worse than Pakistan (3.34) and Nigeria (3.16), while Singapore (8.61), Malaysia (6.93), and South Africa (5.48) scores the top 3 values among the countries compared (ITU, 2018). This shows that Bangladesh needs significant improvement in areas such as internet bandwidth, internet subscription, and internet access and this issue was found repeatedly in previous indices.

Bangladesh is still lagging behind as shown in Table 4 below as the country scores only 38.1% in case of households with internet access at home, which is only above Nigeria and Pakistan.

### 4.2.2 ICT Use

This sub-index demonstrates ICT intensity and includes three intensity and usage indicators (individuals using the Internet, fixed-broadband subscriptions, and mobile broadband subscriptions). In 2017, Bangladesh scored second lowest (1.41) in the IDI use value and scored only higher than Pakistan (1.24) (ITU, 2018). This is again due to the small proportion of individuals using the internet with low broadband subscription and cellular data subscription, mainly in rural areas.

Bangladesh is still lagging behind as shown in Table 4 below as the country scores only 38.9% in individuals using the internet and 54.7% in mobile broadband subscription per 100 individuals, which is again only above Nigeria and Pakistan.

Table 4 : IDI Indicator Values of Different Countries

| Country | Households with Internet Access at Home (%) | Individuals using the Internet (%) | Mobile Broadband Subscriptions per 100 Inhabitants |
|---|---|---|---|
| Bangladesh | 38.1 | 38.9 | 54.7 |
| Egypt | 73.0 | 71.9 | 61.6 |
| Malaysia | 94.9 | 96.8 | 125.1 |
| Nigeria | 34.6 | 32.3 | 36.6 |
| Pakistan | 32.8 | 18.9 | 46.5 |
| Singapore | 99.3 | 96.9 | 147.5 |
| South Africa | 77.5 | 74.2 | 115.7 |
| Sri Lanka | 61.7 | 44.5 | 87.0 |
| Thailand | 88.7 | 85.3 | 111.9 |
| Vietnam | 81.0 | 74.2 | 87.8 |

*Source : ITU (2023)*

### 4.3 Network Readiness Index (NRI)

Network Readiness Index (NRI) is a framework, which assesses the factors, policies, and institutions that empower a country to fully leverage information and communication technologies for inclusive and sustainable growth, competitiveness, and well-being. The NRI framework consists of four variables: Technology, People, Governance, and Impact. This study focuses on three aspects of the NRI– Technology, People, and Governance. In 2023, Bangladesh ranked 88th, just above Pakistan and Nigeria.

#### 4.3.1 NRI Technology

Technology is at the heart of the network economy. This pillar therefore seeks to assess the level of technology that is a sine qua non for a country's participation in the global economy. The following three sub-pillars have been identified for that purpose:

• **Access :** The fundamental level of ICT in countries, including on issues of communications, infrastructure, and affordability. Bangladesh was ranked the lowest in terms of household with Internet access by NRI, lower than Pakistan and Nigeria even. This issue has come up repeatedly in previous parameters too. So, it is a matter of urgency that access to Internet needs to be substantially increased in Bangladesh. Mobile network coverage is another important factor for e-commerce adoption. Ranked 73rd, despite recent expansion of network coverage, Bangladesh lags behind countries like Egypt, India, Singapore, South Africa, Thailand, and Vietnam.

• **Content :** The type of digital technology produced in countries and the content/ applications that can be deployed locally.

• **Future Technologies :** The extent to which countries are prepared for the future of the network economy and new technology trends such as artificial intelligence (AI) and Internet of Things (IoT).

The following figure shows that Bangladesh scores the second lowest amongst the compared countries. The NRI technology score for Bangladesh is only 41.24.

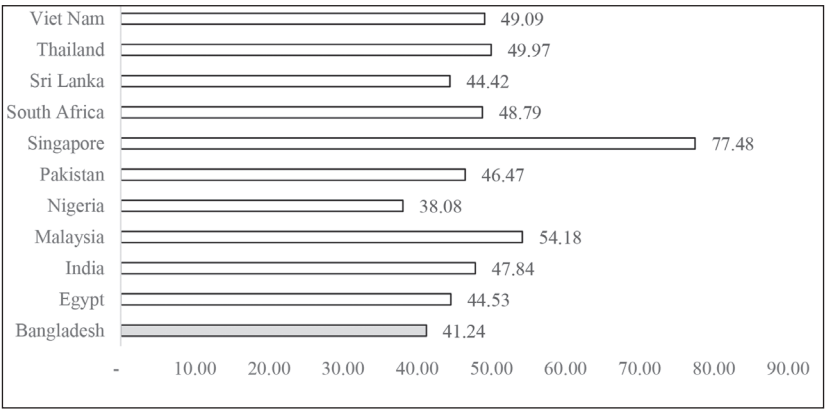


Figure 6 : NRI Technology Score 2023 of Countries

*Source : Network Readiness Index 2023*

### 4.3.2 NRI People

The availability and level of technology in a country is only of interest insofar as its population and organizations have the access, resources, and skills to use it productively. This pillar is therefore concerned with the application of ICT by people at two levels of analysis: individuals and businesses.

• **Individuals :** How individuals use technology and how they leverage their skills to participate in the network economy.

• **Businesses :** How businesses use ICT and participate in the network economy.

In this regard, if the ranking on internet shoppers is considered, it is found that Bangladesh lags behind all the countries, except Pakistan.

### 4.3.3 NRI Governance

A country's network readiness does not take place in a vacuum and is a function of the national context within which people operate. Thus, this pillar seeks to capture how conducive the national environment is for a country's participation in the network economy, based on issues of trust, regulation, and inclusion.

As the table below shows, Bangladesh still has a long way to go in terms of protecting consumers' trust and safety. Vietnam has made the e-commerce marketplace a safe haven for consumers with the government's special focus on the industry and laws regarding the safety of consumers.

Table 5 : NRI Ranking on Different Parameters

| NRI Ranking 2023 | | | | | |
|---|---|---|---|---|---|
| | **Overall Ranking** | **Households with Internet Access** | **Population Covered by at least a 3G Network** | **Internet Shopping** | **Trust** |
| Bangladesh | 88 | 58 | 73 | 104 | 88 |
| Egypt | 73 | 46 | 47 | - | 70 |
| India | 61 | 59 | 68 | 84 | 73 |
| Malaysia | 36 | 38 | 87 | 36 | 38 |
| Nigeria | 109 | 85 | 115 | 102 | 83 |
| Pakistan | 89 | 67 | 120 | 113 | 103 |
| Singapore | 2 | 6 | 1 | 22 | 17 |
| South Africa | 68 | 61 | 37 | 72 | 60 |
| Sri Lanka | 81 | 93 | 82 | 79 | 96 |
| Thailand | 46 | 26 | 67 | 33 | 50 |

*Source : Portulans Institute (2023)*

## 5. DISCUSSION

### 5.1 Analysis of Findings

In terms of generating revenue from e-commerce, Bangladesh is still one of the lowest revenue-generating countries among the discussed ones. Bangladesh had the lowest amount, 1,648 million USD, of revenue from e-commerce in 2019. The main reason for this can be attributed to the low number of users as well as people's income. Like Bangladesh, Pakistan has not gotten traction in the sector. On the contrary, India became the highest revenue-generating country among the discussed ones. A larger population, the willingness of people to use online platforms, and the growing number of internet users are the primary contributors to the scenario. Indonesia, being the second-highest revenue-generating country in the sector in 2019, has seen a further boom in e-commerce during COVID-19. Thailand and Malaysia have been at the forefront of e-commerce development in the Asian region. Malaysia, Thailand, and Indonesia have a higher revenue per user. South Africa's e-commerce sector has also not seen any substantial growth in e-commerce sale due to the low internet penetration rate and the not-so-welcoming nature of people toward online shopping. Vietnam's e-commerce market has seen a rapid growth since 2013. The country's online retailing has grown from 1.8% to 8.1% of its total retail sales from 2013 to 2020.

Bangladesh has a CAGR rate of 16.6% which shows a growth potential waiting to be unearthed. Egypt has an annual growth rate of 27.3% which is the highest compared to other countries. The country has started to show its real potential in the recent

period which led to the high projected CAGR rate. On the other hand, countries like Sri Lanka and Malaysia have also shown signs of high growth rates.

A very crucial factor for e-commerce growth in a country is the 'internet user and penetration rate' where Bangladesh shows a slow growth. Being the 8th most populous country in the world and the 5th largest internet usage country in Asia, Bangladesh has been experiencing a steady growth rate in internet and bandwidth consumption. However, the number of internet users has been increasing as internet services are reaching peripheries. Around 80 million users increased during 2015-2020. The internet penetration in Bangladesh stood around 41% in 2020 (DataReportal, 2020). The reasons for this slow growth of internet usage are the connectivity issues in rural areas where a major population lives, lack of infrastructure development, less affordable internet services, and low literacy rates with people not being aware of the usage of the internet as well as online purchases. However, the neighboring country, India, has a 50% internet penetration rate given by more rural internet users than that of urban areas. The rural areas have 227 million active internet users which is 10% more than that of urban areas (Internet and Mobile Association of India [IAMAI], 2019). The internet penetration rate of Pakistan was 35% in 2020 due to reduced internet freedom. On the other hand, Sri Lanka shows a gender gap in internet usage. The men are more aware of internet usage and services than women in Sri Lanka which stagnates the internet penetration rate at 47% withstanding a high literacy rate and smartphone usage rate. South Africa's internet penetration rate stays at 48.9% and shows a steady growth because of the lack of development of ICT infrastructure and lack of ICT skills of people. Nigeria, despite being an underdeveloped economy, harnessed a 50.2% internet penetration rate given by the high broadband access. Egypt has shown significant improvement in internet penetration rate, 54.0% to be specific, given an annual growth rate of 22.2%. The internet penetration rate is higher in countries such as Vietnam, Thailand, Indonesia, Malaysia, and Singapore due to developed infrastructure, people residing in urban regions, faster internet connection, etc.

The internet penetration rate affects the e-commerce penetration rate in countries. With an increasing population, high urbanization, and faster internet services, e-commerce usage in Bangladesh continues to grow at a rapid pace. Along with the influx of new e-commerce businesses, established businesses are focusing on building websites, social media existence, and digital trading. However, although the number of e-commerce users is increasing, it is still lower compared to other countries like India which has a 39.7% e-commerce penetration rate, Thailand with 48.2%, Malaysia with 40.5%, and Singapore with 52.4%. One of the reasons is that the e-commerce boundary is limited only to Dhaka and Chittagong and in mostly urban areas. Moreover, risks of fraud, lack of trust, difficulties with payment platforms, and security issues are hindering people from purchasing through online platforms. Malaysia, Thailand, Indonesia, and Vietnam have faster internet services which is helping to boost their e-commerce sector.

Bangladesh's segment distribution indicates the lack of diverse product lines present in the e-commerce platforms. As such, the traffic growth is less and people expect less from the digital business platforms. On the other hand, Pakistan's e-commerce industry has a lot of opportunities in developing the diverse product lines' businesses existent in the digital module. India has conquered the basic prerequisites in developing a stronghold foundation in the e-commerce industry. Singapore and Malaysia are the two dominating countries in the e-commerce sector in the South Asian geo-chain. Multiple domestic and international websites cover almost every possible business entanglement in these countries.

According to a study, around 84.3% of men and 77% of women purchase products online around the globe. However, Bangladesh, India, Pakistan, and Nigeria see a male dominance in shopping online. For instance, 75% of the e-commerce users are male compared to 25% females. On the other hand, countries like Singapore, Thailand, and Malaysia have a female dominance in e-commerce usage.

In terms of payment methods, e-commerce in Bangladesh massively depends on the Cash on Delivery (COD) method. Almost 95% of the customers are willing to purchase the products under the condition of paying after the delivery. Sri Lanka and Pakistan also resemble the same scenario as Bangladesh. Although India also highly depends on the COD method, its current 10% share in the market, encompassing digital transactions, is estimated to be at 25% within the next 3 years. Vietnam, Nigeria, and Thailand have also seen a declining trend in using COD mode. Countries like Malaysia, Indonesia, South Africa, and Singapore have seen a high dependency on digital payment due to proper infrastructural development as well as development in online payment modes.

Table 6 : Key Findings in E-commerce Adoption by Different Countries

| | **Positive Factors in the E-Commerce Market** | **Negative Factors in the E-Commerce Market** | **Primary Strategies** |
|---|---|---|---|
| **Bangladesh** | Shift in culture, increasing trust in online retailers | Poor infrastructure, lack of online transactions, and societal norms | Prioritize B2C and provide deals and free delivery |
| **Vietnam** | Young population, rising income, growing retail market | Saturated market | Avoid digital content such as music or streaming |
| **South Africa** | Low prices, wide product variety, attractive promotions | Poor infrastructure, low research and development (R&D), reliance on private courier service | Lower prices of products online and provide free delivery and discounts |

Table 6 (Contd.)

| | Positive Factors in the E-Commerce Market | Negative Factors in the E-Commerce Market | Primary Strategies |
|---|---|---|---|
| **Egypt** | Favorable geographical location, strong infrastructure | Rural consumers are neglected, e-payment is not widespread | Collaborate with international companies to manage logistics |
| **Pakistan** | Strong ICT sector | Digital gap, cultural norms, poor infrastructure | Prioritize B2C and classified ads |
| **Sri Lanka** | Educated population, easy online payment | Internet security, infrastructure | Prioritize B2C and electronics |
| **Indonesia** | Internet savvy population, large population | Poor infrastructure, mediocre payment system, logistical issues | Advertise on social media and avoid mass marketing |
| **Nigeria** | Rising internet penetration rate, growth of e-banking | Low internet security, awareness, high product price | Try to maintain profit and increase security |
| **India** | Young and tech-savvy population, government support | Low internet penetration, slow internet, cybercriminals | Provide easy product returns and free delivery |
| **Malaysia** | Adaptability of consumers, high internet penetration rate | Complex border procedures, poor delivery services | Advertise through social media and address customer concerns. |

During the FGD, industry experts opined that the environment where the above-mentioned countries operate varies significantly. Therefore, each country has unique issues that impact the e-commerce adoption and derives strategies accordingly. Summary of such findings is shown in Table 6 above.

### 5.2 Challenges of E-Commerce Adoption

There are several factors that hinder achieving the expected growth in e-commerce in countries. For Bangladesh, the primary factors are the lack of awareness and access to the internet like India and Pakistan. Also, the penchant for the cash or COD method like Vietnam, Thailand, and Pakistan, hampers the real potential of the market to be realized. Underdeveloped infrastructure, low digital literacy rate, limited spread of e-commerce in rural and sub-urban areas, and fear of fraud and deception make e-commerce grow only steadily in Bangladesh. India and Nigeria

also face problems due to cyber security issues and lack of infrastructure. Like Bangladesh, the low digital literacy rate is an issue for South Africa as well. The influx of foreign investors deters the growth of the domestic e-commerce market in Vietnam and Thailand. Along with the comparatively smaller population, the highly expensive internet payment gateways (IPGs) provided by the banks and the lack of any other development of IPG in Sri Lanka discourage youth from e-commerce startups. Delays in delivery, quality discrepancy, and inability to return the product in the e-commerce market in Egypt are discouraging people from buying products online. Along with common problems, Pakistani customers' preference for offline shopping hinders the growth of e-commerce in Pakistan.

### 5.3 Way Forward

Government policies are crucial factors in determining the trajectories of a sector. In Bangladesh, the cabinet approved the "National Digital Commerce Policy 2018" which has many short- and long-term policies that facilitate the growth of e-commerce. Important issues such as copyright, digital rights, and consumer rights have been addressed. The government wants to get rid of all fraudulent activities, such as hacking or inability to provide customer satisfaction. However, its proper implementation is yet to be realized. Also, the government also focuses on increasing digital literacy which is needed but not sufficient to enough to develop the e-commerce sector rapidly. The government has also been attempting to make the internet cheaper and available for everyone. Singapore, being one of the leading countries in e-commerce, focuses on removing unhealthy competition and making operations by foreign companies easier in the country. India's policy in this regard revolves around increasing digital literacy, building a strong digital infrastructure, providing internet connectivity, and attracting foreign investors. Indonesia's policy also heavily centers around increasing digital literacy. Malaysia put efforts into lifting non-tariff barriers, realigning existing economic incentives, investments in selective e-commerce players, promoting cross-border e-commerce, etc. Nigeria, South Africa, and Sri Lanka's policies center around investing heavily in the ICT sector and increasing IT security. Also, countries like Pakistan, Thailand, and Vietnam put effort into digitizing payment methods, improving data security, and even making advantageous tax structures for e-commerce.

## 6. CONCLUSION

The study critically analyzes the factors that help other countries of similar economy or countries that initiated the use of internet at contemporary period of Bangladesh. The analysis shows the critical factors that impact either positively or negatively to the growth of the digital economy. The study finds that, although, India and Pakistan have a larger population than that of Bangladesh, the country has higher growth rate in e-commerce than Pakistan and is also competing with India. More people in Bangladesh are now getting access to Internet with the advent of 3G and 4G mobile network services and more people will get to know about e-commerce and its benefits. Therefore, the finding of this study significantly contributes to the

existing body of knowledge regarding e-commerce landscape of Bangladesh. Also, by identifying several challenges of e-commerce adoption, this study helps the policy maker to consider potentials factors to set necessary course of action.

The analysis of the study also concludes that high allocation of budget in the ICT sector, higher literacy rate, and more women engagement and empowerment are leading Bangladesh to thrive in the e-commerce industry and to compete with other nations like India, Sri Lanka, Egypt, Nigeria, and Vietnam. However, Bangladesh needs to improve its awareness of e-commerce to the rural people and focus on making digital transactions more convenient and secured. If e-commerce can bloom all over Bangladesh, it will surely help the country to build a strong economy. And thus, Bangladesh can become a role model in e-commerce like Singapore, Thailand, or Malaysia.

This study finds methods of payment for e-commerce transactions a critical challenge. Moreover, the operation of organizations is going through a rapid digital transformation. Therefore, future studies could consider the integration of the financial technology to ensure smooth transaction in e-commerce.

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