

The Role of E-commerce in Boosting the Economic Growth of Developing Countries

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Abstract:

the purpose of this study is to give a better understanding of E-commerce concept and its role in boosting economic growth of developing countries by responding to the questions of how does E-commerce affect the economic growth of developing countries and what are the major barriers to E-commerce adoption by developing countries.

the methodology consists of summarizing and synthesizing the relevant literature review on the subject in order to clarify the link between E-commerce and economic growth combined with a descriptive analysis of worldwide electronic trends.

Electronic commerce has become an essential part of the global economy and represent the new trend of doing business worldwide in both developed and developing countries facing real challenges to overcome the different barriers in order to reach the trend and occupy their relevant place in the global economy by integration electronic commerce as key factor of economic growth.

Keyword:

E-commerce, Barriers to E-commerce, developing countries, economic growth

ملخص:

والغرض من هذه الدراسة هو إعطاء فهم أفضل لمفهوم التجارة الإلكترونية ودورها في تعزيز النمو الاقتصادي للبلدان النامية من خلال الرد على الأسئلة المتعلقة بكيفية تأثير التجارة الإلكترونية على النمو الاقتصادي للبلدان النامية وما هي الحواجز الرئيسية التي تعترض اعتماد البلدان النامية للتجارة الإلكترونية.

تتكون منهجيتنا من تلخيص وتوليف مراجعة الأدبيات ذات الصلة حول هذا الموضوع من أجل توضيح الصلة بين التجارة الإلكترونية والنمو الاقتصادي جنباً إلى جنب مع تحليل وصفي للاتجاهات الإلكترونية في جميع أنحاء العالم.

وقد أصبحت التجارة الإلكترونية جزءاً أساسياً من الاقتصاد العالمي وتمثل الاتجاه الجديد لممارسة الأعمال التجارية في جميع أنحاء العالم في البلدان المتقدمة النمو والبلدان النامية التي تواجه تحديات حقيقية للتغلب على مختلف الحواجز من أجل الوصول إلى هذا الاتجاه واحتلال مكانتها ذات الصلة في الاقتصاد العالمي من خلال تكامل التجارة الإلكترونية كعامل رئيسي للنمو الاقتصادي.

الكلمات المفتاحية:

التجارة الإلكترونية، الحواجز أمام التجارة الإلكترونية، البلدان النامية، النمو الاقتصادي

1. Introduction

The 21st century is by excellence the era of globalization and hyper connectivity of the world wide economy characterized by the emergence of electronic commerce as the new way of doing business worldwide (Qin, 2007) due to the high development in communication technology (Alyoubi, 2015) resulted by the emergence of E-commerce as a new concept and a huge opportunity for both developed and developing countries to follow the trend moreover achieving economic growth.

Many worldwide international organizations and agencies promote E-commerce as the best opportunity for developing countries to join the global economy further more achieve a sustainable economic growth based on the knowledge economy and information economy (Lund & McGuire, 2005) yet there is a major disparity of E-commerce adoption between developed and developing countries due to many barriers for E-commerce adoption present in developing countries (Lawrence & Tar, s. d.) which lead to as the question of how does E-commerce affect

the economic growth of developing countries and what are the major barriers to E-commerce adoption by developing countries?

The purpose of this paper is to elucidate the concept of E-commerce as well as to give a better understanding of E-commerce and to explain its major role in boosting the economic growth of developing countries moreover clarifying the major barriers of E-commerce adoption in developed countries combined with a global analysis of main worldwide E-commerce trends.

2.The concept of E-commerce

Since the infant age of the internet economy to its glory and high growth now days researches have done their best to construct the theoretical background of the E-commerce concept thus many definitions have been given to the concept.

Definition of E-commerce:

“E-commerce refers to the use of electronic means and technologies to conduct commerce (sale, purchase, transfer and exchange of a product, services, and/or information) including business to business, and business to consumer interactions. Delivery of product or service may over or outside the internet” (Whinston ,Choi, & Stahl,1997 cited in (Manzoor, 2010, p. 2)

As defined by Roger Clark E-commerce is” the trade of goods and services through telecommunications and telecommunication tools” (Clark,2015 cited in Babenko et al., 2019, p. 1)

According to Zhen Qin E-commerce refers to” various online commercial activities focusing on commodity exchanges by electronic means, Internet in particular, by companies, factories, enterprises, industrial undertakings and consumers” (Qin, 2007, p. 7)

It may be also defined as “ an electronic contract for the exchange of value using information and communication technology” (Ellison, 2015 cited in Babenko et al., 2019, p. 1)

Another definition of E-commerce is “ the sharing of business information, maintaining business relationships, and conducting business transactions by means of telecommunication networks”(Vladimir, 1996, p. 1)

By summarizing all the definitions above, we can understand the fact that in this era of globalization characterized by the high development of communication technologies and the emergence of E- commerce as a new concept of doing business through electronic means the latter consist of exchanging goods and services moreover sustaining business relations and swapping business information within country borders and cross country borders furthermore directing business transaction by electronic means made possible by the high development of communication technology furthermore the progress of communication tools.

Categories of E- commerce:

According to Zheng Qin E-commerce is divided into five categories on the basis of transactions:

1. B2B: consist of any companies providing other companies with services or commodities used in the production process of other goods, this activity is the most growing activity due to high profitability, capital flows and low costs.
2. B2C: any product or service provided by companies to end user customers.
3. B2G: relation between business and government, the latter have the role of managing E-commerce effectively via E-governance and as client by taking the lead in using E-commerce for procurement.
4. C2C: end consumer to end consumer relation where both parties are not entrepreneurs in the legal meaning yet usually a third party is involved for example and online sale platform, the latter represent the link or the intermediate.
5. G2G: which can be referred to as governmental E-commerce which include different governmental organizations.

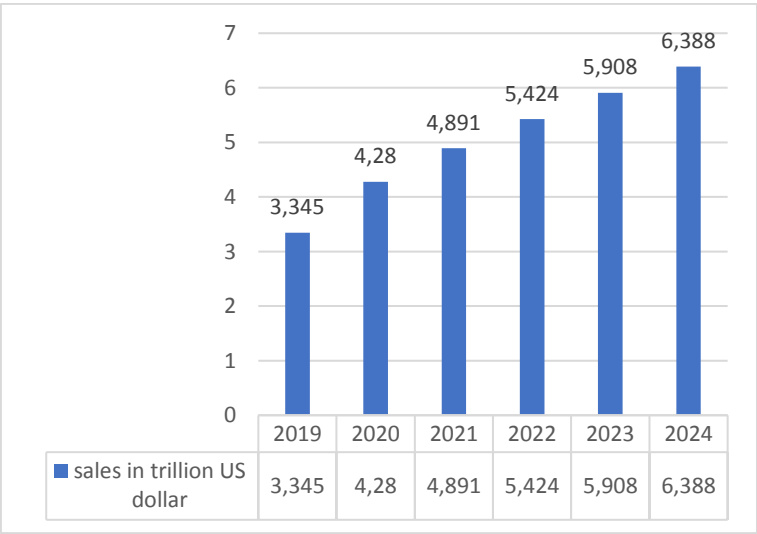
Other researchers may add another category which is C2G which refers to the interaction between final customer and government organization (Babenko et al., 2019, p. 2).

3. Main worldwide E-commerce trends

The 21st century is by excellence the era of globalization when the huge development of information and communication technology allowed the rise of E-commerce as a new concept of doing business for both developed and developing countries.

In overall E-commerce statistics reflects a huge growth of this business notion by all means, according to (Fig 1) the global sales are estimated around 4,280 trillion US Dollars with steady growth that may hit the value of 6,388 trillion US Dollars in 2024 according to EMarketer estimation which reflects the attractiveness of this business mode to investors nevertheless the flexibility and the huge possibilities of economic growth.

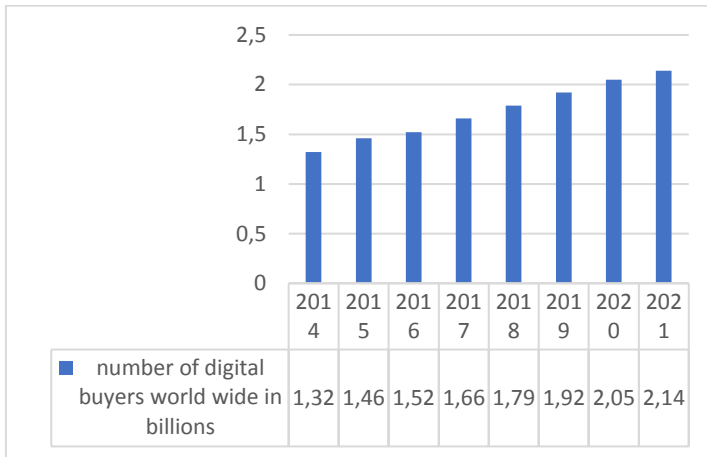
Figure 1. E-commerce Global Sales



Source: *Global Ecommerce Sales (2019–2024)* | Oberlo, s. d.)

According to (Fig2) digital buyers are estimated by 2,14 billion buyers in 2021 with steady growth noticed over the past 8 years an indicator of the growing market of E-commerce worldwide.

Figure 2. Number of Digital Buyers World Wide

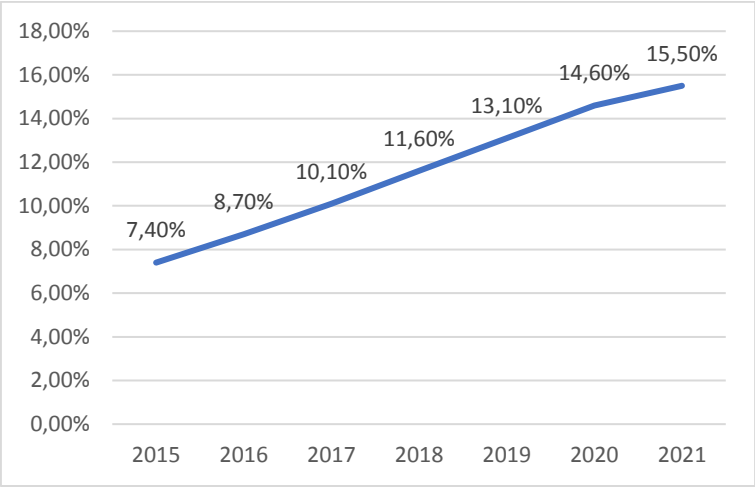


Source: (• *Digital buyers worldwide 2021* | Statista, s. d.)

Based on (Fig3) we notice that the E-commerce share of total retail share is increasing over the last 8 years passing from 7.4% in 2014 to over 15.5% in 2021 Infront of the traditional retail business, this indicator reflects the success of the E-commerce business model generally and particularly in the retail market.

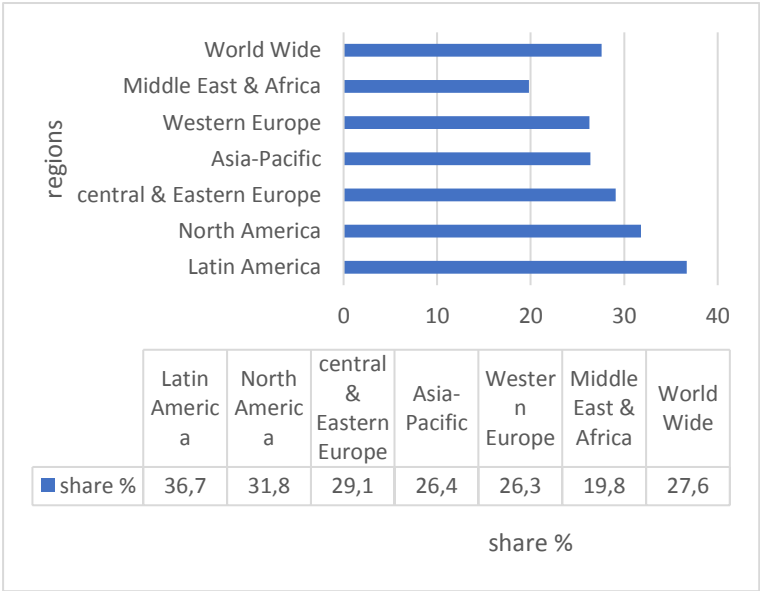
As we are investigating the effect of E-commerce on economic growth particularly in developing countries, we notice the importance of analyzing retail growth per region as shown in (Fig4) which explains how regions such as Latin America, North America, pacific Asia and eastern Europe are widely ahead of the middle east and Africa when it comes to E-commerce retail growth consequently most of developing countries are situated in this region.

Figure 3. E-commerce Share of Total Retail Share



Source: (Dobрева & Ltd, s. d.)

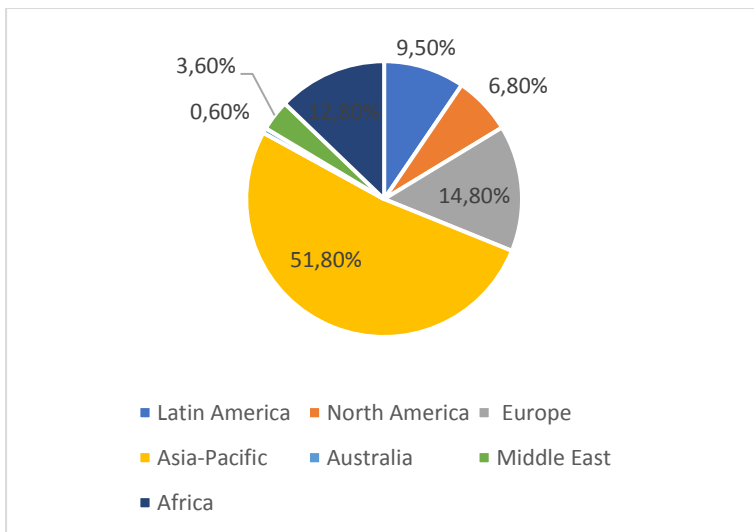
Figure 4. E-commerce Retail Growth by Region



Source: (Global Ecommerce Sales Growth (2019–2024) | Oberlo, s. d.)

In general, there is a correlation between the number of internet users per region (Fig5) and growth in E-commerce as a trend, its logical that Asia- pacific take the lead on the basis of demography yet we notice the Middle-East and Africa are last regions when it comes to growth in E-commerce and internet users, and indicator that reflects the poor ICT infrastructures as first barrier for E-commerce adoption to developing countries.

Figure 5. Internet Users Per Region

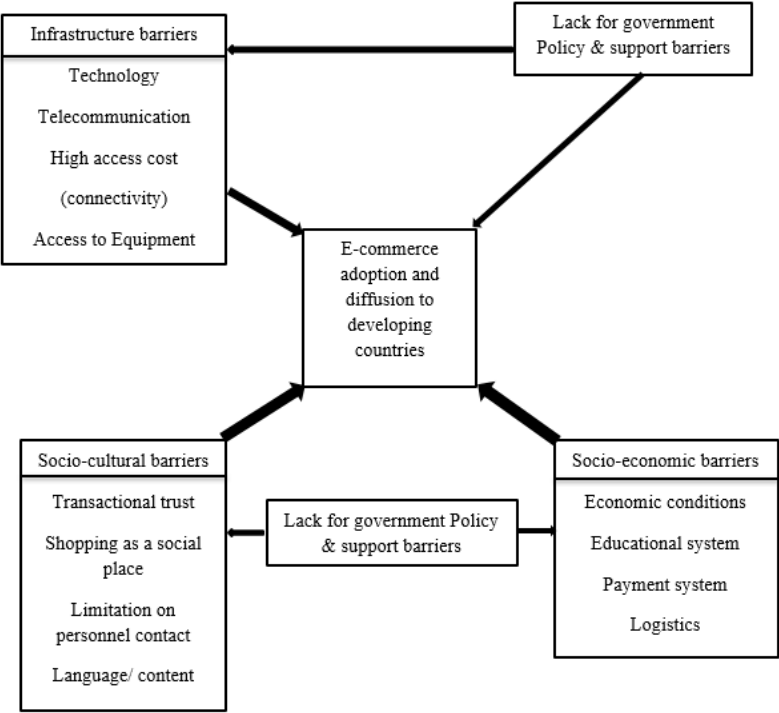


Source: (World Internet Users Statistics and 2021 World Population Stats, s. d.)

4. The barriers of E-commerce in developing countries

As we have seen in our previous analysis of E-commerce worldwide, that it represents a huge opportunity of economic growth yet the developed countries are taking the lead due to many factors while specific regions as the Middle-East and Africa are still reluctant to join the global E-commerce trend due to many technological, political, social and economic obstacles.

Figure 6. Framework barriers hindering E-commerce adoption in developing countries



Source: (Lawrence & Tar, s. d., p. 4)

According to Lawrence and Tar there are particular infrastructural reasons delaying the adoption of E-commerce by developing countries, on the basis of (Fig6) we notice that reasons are various yet are likely to fall under specific factors such as the lack of government support, infrastructure barriers, socio-cultural barriers, socio-economic barriers.

Adopting E-commerce in developing countries is delayed due to the absence of payment tools, inadequate logistics, deficiency of online merchants, inadequate legal system , poor telecommunication and

non-availability of large scale transmission capability (Lawrence & Tar, s. d., p. 4).

According to the concept of layers first proposed by Travia and al in 2002 (Wresch & Fraser, 2011, p. 2) E-commerce success involves many favorable conditions:

- ✓ Customer E-commerce propensity
- ✓ Expertise (both technical and managerial)
- ✓ Legislations (legal system)
- ✓ E-payment/banking facility
- ✓ Software services
- ✓ Telecommunications (internet access, speed and costs)
- ✓ Delivery service (logistic performance)
- ✓ Traffic infrastructure

Nir Kshetri proposed an approach based on three categories: economic, sociopolitical and cognitive in the analysis of E-commerce barriers and competitive business model in developing countries.

Economic factors are explained by returns and low performance of IT business due to the lack of infrastructures yet sociopolitical are relevant to formal and informal institutions mostly more time consuming and harder to overcome than technical barriers moreover cognitive factors are related to individuals mind maps and organizational decisions although many researchers argue that the latter are harder to overcome than economic and sociopolitical factors(Kshetri, 2007, p. 3,4).

Despite all the barriers and limitations to E-commerce adoption by less developed countries the UNCTAD(2005) (cited in Alyoubi, 2015, p. 2) informed that between 2000 and 2005 developing countries reflected a high growth in internet users equal to 300% and 40% of world web users beside the local obstacles to the pursuit of economic growth through E-commerce, many success stories fined the light as Brazil and china the latter may emerge as the world's leader in global E-commerce due to its huge population of internet users moreover the use of E-commerce by the business leader as a way of enhancing the presence of their companies in the international market as well as forming a

better customer relation, other countries like Brazil and India showed a tremendous growth rate in electronic commerce passing from 1.6 billion US Dollar to in 10 years in the case of Brazil and from and from 3.8 billion US Dollar to 13.8 between 2009 and 2013 in the case of India (Alyoubi, 2015, p. 2).

5. E-commerce and economic growth

The role of electronic commerce as the new trend of doing business worldwide and its effect on economic growth of developed countries and practically to developing countries as a key factor to a better integration into the global economic as well as boosting economic growth.

Many international agencies counting the WTO, OECD, UNCTAD consider the relation between information economy moreover economic growth and performance as well as embracing ICTs and E-commerce are new ways for economic growth and development for developing countries (Lund & McGuire, 2005, p. 1).

According to N. Georgiou in his analysis of the impact of electronic commerce on economic growth he clarifies that the factor is due to the internet expansion which became more than a communication tool used several domains as well as the consumption which affects directly companies performance, due to more flexibility , competitive advantage moreover fast access to welfare and cost savings using the internet as a communication tool, yet the impact is greater in business to business operation because of organization flexibility, easier distribution and market penetration (Georgiou, 2009, p. 1,3,4,7).

Shu-Chun Ho, Robert J. Kauffman and Ting-Peng Liang clarified in their study of B2C E-commerce growth in EUROPE from a growth theory perspective based on an endogenous approach supposing that economic growth in E-commerce is related to internal drivers pointed as the number internet users penetration, investment intensity in telecommunication, venture capital availability, Credit card penetration and an exogenous approach supposing that the same factors can be considered as external drivers in the case of their

presence in a regional leading country of a group of leading countries, a third part of the analysis is the mixed approach and the results clearly explained a simultaneous effect of endogenous and exogenous drivers on country's E-commerce revenue growth (Ho et al., 2007, p. 17).

Anvari and Norouzi investigated the impact of E-commerce and research development on economic development using a panel of 21 country between 2005-2013 practically the study investigated the impact of E-commerce, and R&D, health expenditure and government size on GDP per capita, the study found out that E-commerce and R&D have a positive impact on GDP per capita yet the E-commerce had the stronger enhancing development effect (Anvari & Norouzi, 2016, p. 7).

According to Lili Qo and Yan Chen in their study of the E-commerce impact on China's economic growth using china's GDP value as the dependent variable on number of internet users, number of e-commerce businesses, number of online shopping and number of E-commerce transactions revealed a significant positive correlation with China's GDP which means that E-commerce development had a positive impact on economic growth (Qu & Chen, s. d., p. 7).

6. Discussion

The E-commerce as new concept of doing business using electronic means for exchanging goods and services (Manzoor, 2010) and sustaining business relations moreover business information with country or worldwide as well as managing business transactions due to the high development of communication tools and technology (Qin, 2007).

On a global scale E-commerce reflects a success story worldwide weather however a huge disparity is noticed between developed and developing countries as showed within the statistics that regions like Middle East and Africa reveal a small share of internet users penetration and a none significant impact on E-commerce share worldwide due to many barriers to E-commerce adoption in developing countries(Lawrence & Tar, s. d.) divided in infrastructure

and technology factor, political and economic factors , social and cultural factors(Kshetri, 2007).

We noticed that the literature review point the barriers to E-commerce adoption in developing countries in detail through many perspectives and classifications however there is a need for many empirical researches in the field in order to point the strategic measures available for developing countries in order to follow the trend moreover adopt electronic commerce as an engine to achieve economic growth furthermore to get connected to the global economy and to be part of the global value chain.

The studies have pointed the positive impact of E-commerce adoption on economic growth weather in developed countries like western Europe or in success stories of developing countries like china, Brazil and India although the studies showed a direct impact of GDP growth and GDP per capita, organizations flexibility, competitive advantage for firms , easier distribution and market penetration (Anvari & Norouzi, 2016; Lund & McGuire, 2005; Qu & Chen, s. d.; Ruffles, s. d.).

7. Conclusion

In sum E-commerce is a new concept and trend in doing business worldwide made available due to the high development in communication technology and represent a huge opportunity for developing countries to be part of the global economy and to achieve economic development and growth however many developed countries face real challenges to adopt electronic commerce as a key factor of economic growth, this factors can be divided into the absence of technological infrastructure, political and economic factors and social and cultural factors , the positive effect of E-commerce on economic growth is well demonstrated by several empirical studies which reveal the positive effect of the way of doing business by decreasing transactions const, easier distribution and market penetration moreover organization flexibility and many other effect although in a macroeconomic level E-commerce impact positively the GDP and the GDP per capita of developed countries and developing countries who had successfully adopted electronic commerce.

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Appendix

Table 1. Top 10 economies in the UNCTAD B2C E-commerce Index 2020

| 2020 Rank | Economy | Share of individuals using the Internet (2019 or latest) | Share of individuals with an account (15+, 2017) | Secure Internet servers (normalized, 2019) | UPU postal reliability score (2019 or latest) | 2020 Index value) | Index value change (2018-19 data) | Rank 2019 |
|-----------|----------------------|--|--|--|---|-------------------|-----------------------------------|-----------|
| 1 | Switzerland | 97 | 98 | 92 | 97 | 95.9 | 0.6 | 2 |
| 2 | Netherlands | 96 | 100 | 94 | 93 | 95.8 | 0.1 | 1 |
| 3 | Denmark | 97 | 100 | 100 | 81 | 94.5 | 0.1 | 6 |
| 4 | Singapore | 89 | 98 | 94 | 97 | 94.4 | -0.3 | 3 |
| 5 | United Kingdom | 96 | 96 | 84 | 98 | 93.6 | 0.1 | 4 |
| 6 | Germany | 93 | 99 | 90 | 91 | 93.4 | -0.1 | 9 |
| 7 | Finland | 95 | 100 | 88 | 91 | 93.4 | -0.1 | 5 |
| 8 | Ireland | 88 | 95 | 92 | 98 | 93.4 | 0.7 | 7 |
| 9 | Norway | 98 | 100 | 84 | 88 | 92.6 | -0.1 | 8 |
| 10 | China, Hong Kong SAR | 92 | 95 | 88 | 92 | 91.8 | 0.3 | 14 |

Source: (*THE UNCTAD B2C E-COMMERCE INDEX 2020, Spotlight on Latin America and the Caribbean*, s. d., p. 5)

Table 2. Top 10 developing economies in the UNCTAD B2C E-commerce index 2020

| 2020 Rank | Economy | Share of individuals using the Internet (2019 or latest) | Share of individuals with an account (15+, 2017) | Secure Internet servers (normalized , 2019) | UPU postal reliability score (2019 or latest) | 2020 Index value) | Index value change (2019-20 data) | Rank 2019 |
|-----------|----------------------------|--|--|---|---|-------------------|-----------------------------------|-----------|
| 4 | Singapore | 89 | 98 | 94 | 97 | 94.4 | -0.3 | 3 |
| 10 | China, Hong Kong SAR | 92 | 95 | 88 | 92 | 91.8 | 0.3 | 14 |
| 18 | Korea, Republic of | 96 | 95 | 68 | 100 | 89.8 | 0.0 | 19 |
| 30 | Malaysia | 84 | 85 | 71 | 85 | 81.3 | 1.5 | 31 |
| 37 | United Arab Emirates | 99 | 88 | 61 | 64 | 78.2 | 0.0 | 28 |
| 42 | Thailand | 67 | 82 | 59 | 97 | 76.0 | 0.5 | 48 |
| 44 | Iran (Islamic Republic of) | 70 | 94 | 57 | 79 | 75.0 | -1.5 | 45 |
| 49 | Saudi Arabia | 96 | 72 | 43 | 78 | 72.3 | 0.0 | 49 |
| 50 | Qatar | 100 | 66 | 50 | 73 | 72.1 | 0.0 | 47 |
| 54 | Oman | 92 | 74 | 43 | 73 | 70.6 | 0.0 | 60 |

Source: (*THE UNCTAD B2C E-COMMERCE INDEX 2020, Spotlight on Latin America and the Caribbean*, s. d., p. 7)

Table 3. Top 10 developing and transition economies in the UNCTAD B2C E-commerce Index 2020, by region

| East, South & Southeast Asia | West Asia | Africa | Latin America and the Caribbean | Transition economies |
|------------------------------|----------------------|--------------|---------------------------------|------------------------|
| Singapore | United Arab Emirates | Mauritius | Costa Rica | Belarus |
| China, Hong Kong SAR | Saudi Arabia | South Africa | Chile | Russian Federation |
| Korea, Republic of | Qatar | Tunisia | Brazil | Serbia |
| Malaysia | Oman | Algeria | Dominican Republic | Georgia |
| Thailand | Turkey | Ghana | Colombia | Ukraine |
| Iran (Islamic Republic of) | Kuwait | Libya | Uruguay | North Macedonia |
| China | Lebanon | Kenya | Jamaica | Republic of Moldova |
| Mongolia | Bahrain | Nigeria | Trinidad and Tobago | Kazakhstan |
| Viet Nam | Jordan | Morocco | Peru | Azerbaijan |
| India | Iraq | Senegal | Argentina | Bosnia and Herzegovina |

Source: (*THE UNCTAD B2C E-COMMERCE INDEX 2020, Spotlight on Latin America and the Caribbean*, s. d., p. 8)