SAHRA ALTI AFRİKA ÜLKELERİ E-TİCARETİNİN İNSANİ YANI[1]

Görkem DURAK[2]

Özet

E-ticaret, 1990'lı yıllardan beri interneti kullanarak yapılan yeni bir alışveriş yoludur. Bu en son alışveriş şekli, bilgi teknolojilerindeki ilerlemelere dayanmaktadır. 1990'lı yıllarda Amazon ve eBay'in gibi şirketler alışveriş davranışlarını değiştirmeye başladılar. Bu araştırmada, 44 Sahra altı Afrika ülkesinin e-ticaret indeksi, Dünya Bankası Grubu tarafından yayınlanan Dünya Kalkınma Göstergeleri kullanılarak hesaplanmıştır. E-ticaret indeksi elektriğe ulaşım, işletme başlangıç prosedürleri maliyeti, sabit geniş bant abonelikleri, internet kullanıcıları, cep hücresel abonelikleri ve güvenli İnternet sunucularından oluşur. Bu kombine endeksin, uluslararası e-ticaret için ülkelerin hazırlığını gösterdiği varsayılmakta ve İnsani Gelişme Endeksi (HDI) ile aralarındaki ilişkiyi tanımlamak için karşılaştırılmaktadır . Sonuç e-ticaret indeksi ile İnsani Gelişme Endeksi (HDI) arasında orta derecede pozitif bir korelasyon olduğunu göstermektedir.

Anahtar Kelimeler: E-ticaret, İnsani Gelişim Endeksi, Sahra altı Afrika

HUMAN SIDE OF E-COMMERCE IN THE SUB-SAHARAN AFRICAN COUNTRIES

Abstract

E-commerce is a new way of shopping through using internet since 1990s. This latest from of shopping is based on progress in information technologies. In the 1990s, companies just as Amazon and eBay started to change the shopping behavior of people. In this research, e-commerce index of 44 Sub-Saharan African countries are calculated by using World Development Indicators which are issued by the World Bank Group. The E-commerce index is consisting of access to electricity, cost of business start-up procedures, fixed broadband subscriptions, internet users, mobile cellular subscriptions and secure Internet servers. It is assumed that this combined index shows the readiness of countries for international e-commerce and they are compared with Human Development Index (HDI) to identify a correlation between them. The result shows that there is a moderate positive correlation between e-commerce index and HDI.

Keywords: E-commerce, Human Development Index, e-commerce index, Sub-Saharan Africa.

Introduction

More than 30,000 years ago, the cognitive revolution of human kind provided some basic abilities to do commerce and eventually social stratification. Thanks to the development of ocean-going vessels and sailing skills, traders and explorers created new kinds of trade patterns between long distances. After a while, the global unity of the trade was started to be formed in last centuries due to the growing number of empires. Probably it is hard for any Roman Empire citizen to imagine that the commerce would be without boundaries within the European Union and their successors enjoying the products of Germany. The question should be what is the reason behind this significant change. Facilitation of the trade may explain the evaluation of trade. Not only change from seashell exchange to shiny coins and banknotes, but also access to electricity, broadband subscription, internet, mobile cellular usage, infrastructure and international agreements help people to maximize their wealth by using new ways of trade.

Evaluation of people's well being is troublesome job, because it is qualitative. But it can be defined by using some indicators to compare countries between each other. In 1990, United Nations Development Programme (UNDP) issued Human Development Index (HDI) to show what can people do and be in their life. In this research, the main aim is to define the relationship between e-commerce readiness of countries and Human Development Index(HDI). The e-commerce index is introduced before this study, but the relationship between HDI and e-commerce has not been studied before. The study tries to contribute existing literature by measuring e-commerce index of sub-Saharan African countries and comparing with HDI. Before representing the relationship between two subject, a brief information about African economy is given. The study is composed of five main sections. The first one is the economic outlook of Africa. It gives information about GDP, population estimates, financial flows and shares of economic activities. The second chapter is about E-commerce. It just gives a general definition of it. The third one is about Human Development Index. In that section classification of HDI and detailed map of it is shown. The last two sections are method and the results. In these sections, the method and the area of the research is given, subsequently results are shown in the tables.
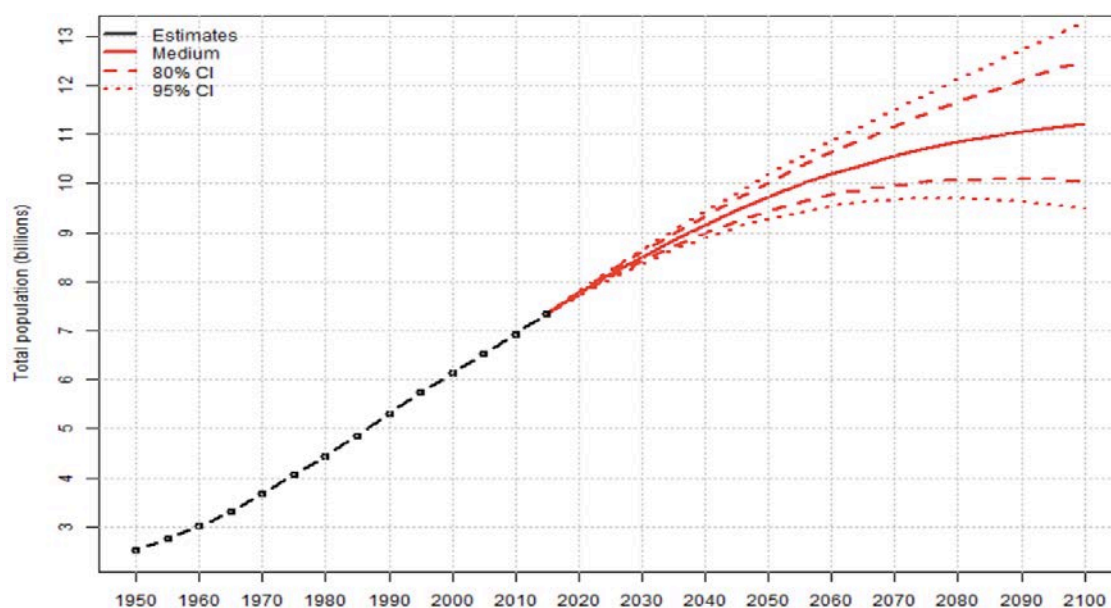
I. The Economic Outlook of Africa

According to the World Bank's data[3], Sub-Saharan Africa (developing only) is home for 1 million people and its GDP is $1.59 trillion. On the other hand, the population of the Netherlands is 16.93 million people and its GDP is $750.3 billions[4]. Rough calculation shows that half of the Sub-Saharan Africa can only achieve the Netherlands' GDP. The life expectancy of the Sub-Saharan Countries is 58 while it is 76 in Europe and Central Asia (developing only) region. This outlook clearly highlights the importance of Africa region for development concerns.

In 2015, United Nations Department of Economic and Social Sciences published the World Population Prospects report. The estimations foresee that the world population will be 9,725 million and the population of Africa will be 2,478 million. In Figure 3, the population trend is growing and in 2050, the quarter of the world population will be living in Africa (United Nations, 2015, p. 1).

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[3] http://data.worldbank.org/region/SSA (by April 2017).
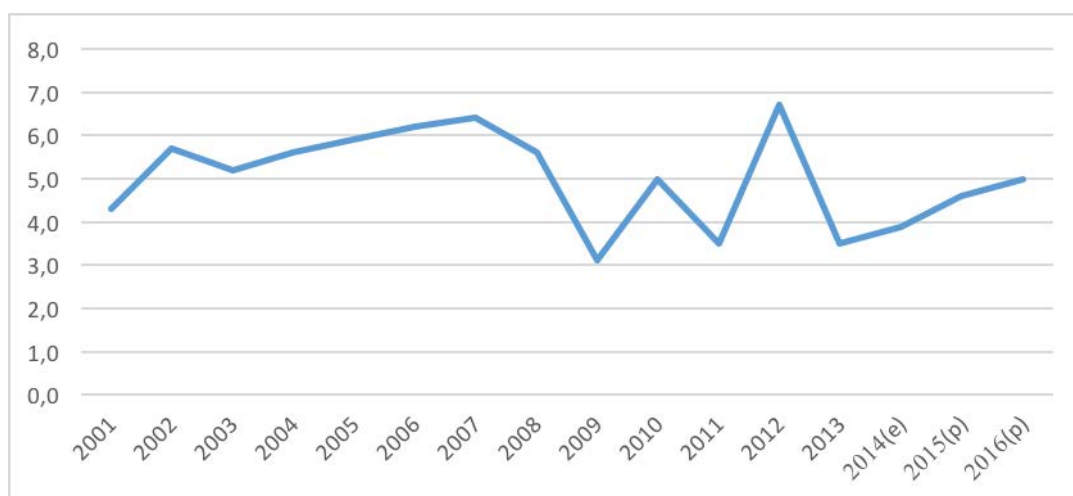[4] http://data.worldbank.org/country/netherlands (by April 2017)

Figure 1 Population of the World: estimates, 1950-2015, Medium-variant Projection and 80 and 95 per cent Confidence Intervals, 2015-2100.

Source: UN, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision.

The Africa's[5] macroeconomic outlook is shown in the Figure 4. Due to economic crisis in 2008, the upward trend of growth stopped. Estimated growth rate for 2014 is 3,9. Furthermore, projected growth rate for 2015 is 4,6 and for 2016 is 5[6].

Figure 2 Africa's Economic Growth between 2001 and 2016, % GDP.

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Note: (e) estimates; (p) projections.
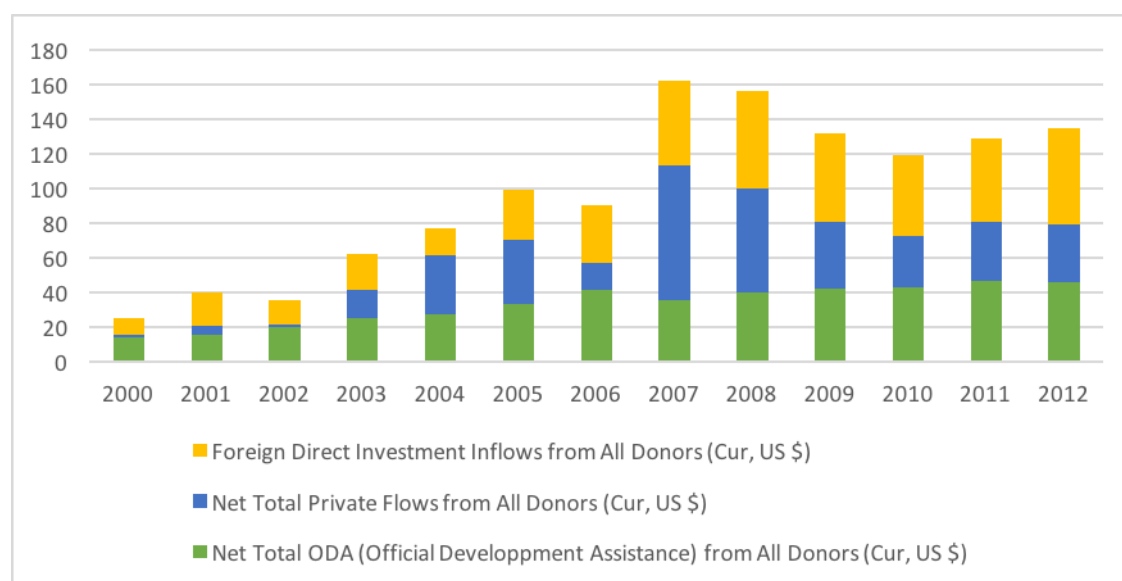Source: Statistic Department, African Development Bank.

According to Africa Development Bank's report, it is expressed that external financial flow had increased relatively in Africa until 2007. After financial crisis of 2007 the external financial flow has not been stable. According to the estimations, share of total external flows in GDP was 7.3% in 2014, which was 8.2% in 2013 (African Development Bank, 2015, p. iii). Figure 5 shows the total amount of FDI, net private total and net total ODA for 2000-2012 period[7].

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[5] Country list of Africa is shown on the African Economic Outlook's web page. http://www.africaneconomicoutlook.org/en/countries
[6] By December 2016.
[7] By December 2016

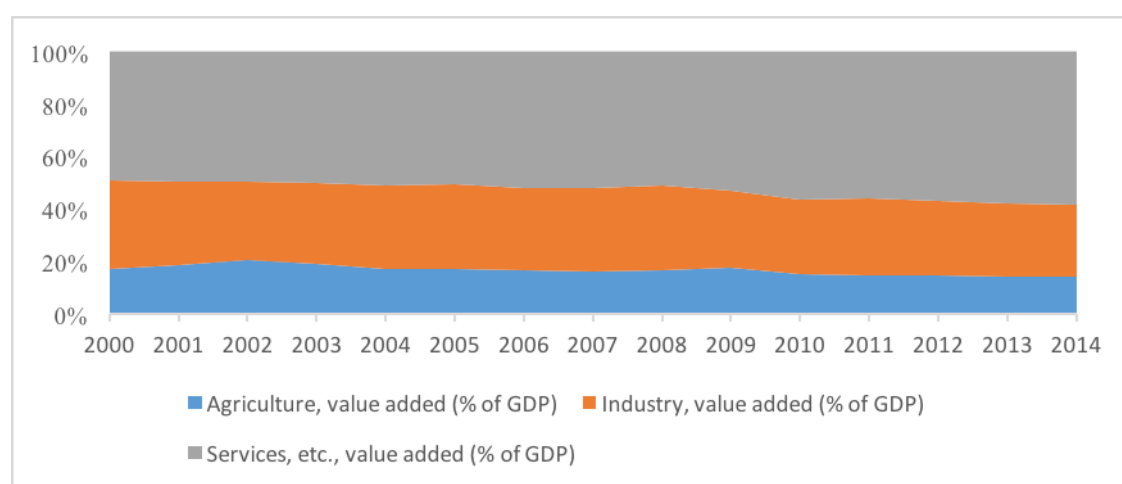Figure 3 External Financial Flows to Africa, 2000-2012 (Billions).

Source: Statistic Department, African Development Bank.

Greater effort has been devoted to human development for Africa, but the progress is not sufficient to reach development gains. Due to high vulnerability to political, economic and social risks, it is hard to keep human development stable. To understand the poverty situation of Sub-Saharan Africa, results of Multidimensional Poverty Index(MPI)[8] are given in the Appendix A.

The sectorial structure of Sub-Saharan Africa has changed little between 2000 and 2014. It is dominated by activities of natural resource and services. Services and agriculture have remained stable, but the industry has decreased as it is shown in the Figure 8.

Figure 4 Shares of Economic Activities of Sub-Saharan Africa.

Source: World Bank national accounts data, and OECD National Accounts data files.

Africa's economic structure is different from the rest of the world, and it necessitates serious approach for solving development issues. In addition to rapid population growth, resource scarcity, urbanization, poverty and decades of warfare are the leading problems. Even it has rich mineral resources, the economy of the Continent is trapped in a vicious cycle. Radical and transformative measures should be implemented for sustainable development. Therefore,

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[8] Oxford Poverty and Human Development Initiative designed MPI to measure poverty. It indicates the poor people in a population and complements the traditional way of measuring poverty.

growing urban areas can only be taken under control by energy, land management and good governance.

Decision makers must take into consideration Human Development Index in order to make progress in development path. Africa, the least developed region of the globe, is therefore the main focus of the development. For true sustainable development, the huge flow of cash is not enough; also, the knowledge capacity has an important role in improving the well-being of individuals and societies.

II. E-Commerce

The way of satisfying human needs has changed through the time. Needless to say, if this process is static, we would still be bargaining to fulfill our needs and desires. The latest form of shopping is electronic commerce aka e-commerce. E-commerce is based on progress in information technologies. In the beginning of 1970s, the ARPANET[9], United States Department of Defense funded project, was founded in order to create a C2[10] System against nuclear attacks[11]. In the 1990s, companies such as Amazon and eBay started to change the shopping behavior of people. Probably it was not anticipated that people can even order food from https://www.petflow.com for their pets using this renewed network system.

E-commerce grew rapidly starting form mid-1990s to mid-2000s. "The popular media published endless news stories describing how the 'dot-com boom' had turned into the 'dot-com bust' " (P. Schneider, 2015, s. 5). The five e-commerce categories are;

- Business-to-consumer **(B2C[12])**
- Business-to-Business **(B2B)**
- Transactions and business process
- Consumer-to-consumer **(C2C[13])**
- Business-to-Government **(B2G)**

According to some researchers, e-commerce helps the international trade. Thanks to Information and communication technologies, firms can sell their goods where they can not reach by physically. E-commerce tries to reduce the barriers to trade such as distance and political reasons. In addition, the difference between online and offline trade is small as a result of lower information costs and greater trust[14].

III. Human Development Index (HDI)

In December 2015, Human Development Report 2015: Work for Human Development was issued by the United Nations Development Programme (UNDP). Since 1990, the UNDP has been issuing Human Development Index (HDI). Countries are classified by four different groups; 0.000-0.550 for the low human development, 0.550-0.699 for the medium human development, 0.700-0.699 for the high human development and lastly 0.800 or greater for the very high human development (UNDP, 2015, p. 204). "It should be mentioned that HDI does not measure absolute levels of human development; but it rather ranks the countries relative to the lowest and highest levels of attainment" (Mıhcı & Taner, 2014, p. 860). The HDI has three

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[9] The Advanced Research Projects Agency Network.

[10] Command and Control.

[11] It is claimed that the ARPANET was created just to create a network between advanced research computers. (http://inventors.about.com/library/inventors/bl_Charles_Herzfeld.htm).

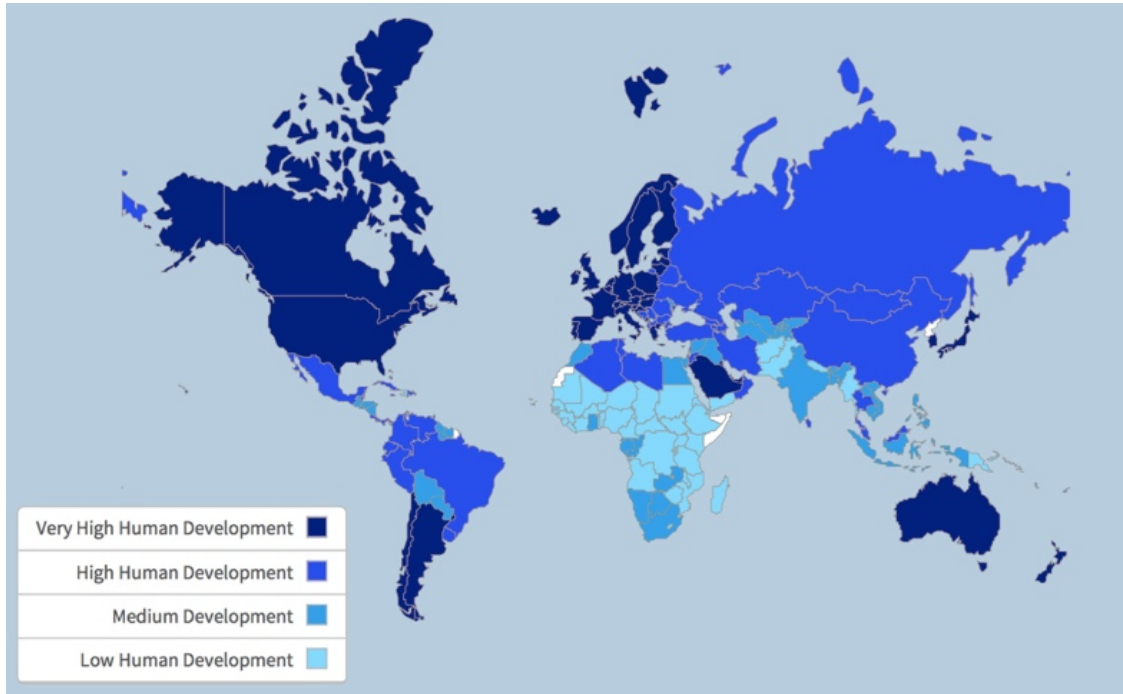[12] For example, www.teknosa.com sells products to consumers through its website.

[13] For example, consumers trade by using www.gittigidiyor.com.

[14] For more information about the results of e-commerce; Martens, 2013; Morgan-Thomas, 2009; Fraumeni, 2001; Lendle et al.,2012)

dimensions[15]. These three dimension is represented by three dimension index[16].

The figure of world map shows the situation of HDI. As it is seen, Sub-Saharan Africa is the most delicate region when it is compared to other regions.

Figure 5 Human Development Indexes by Countries.

Source: United Nations Development Programme.

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The Figure 7 demonstrates the Human Development Index by region. The highest HDI of Sub-Saharan Africa is 0.518, and it is worse than the 1990' indicators of other regions except South Asia. In 2013 South Asia moved up to medium development from low human development. That left Sub-Saharan Africa the only region, which is still in the low human development category. While progress has been made in Sub-Saharan Africa region, considerable deficiencies remain. Henceforth, big push in coping with the remaining gaps of human development is expected from the SDGs.

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[15] These are long and healthy Life, Knowledge and a decent standard of living.
[16] These indexes are Life expectancy index, Education index and GNI index.

Figure 6 Trends in the Human Development Index, 1990-2014.

Source: Human Development Report 2015: Work for Human Development (2015, p. 215).

IV. Method

The application of defining the e-commerce readiness first introduced in the United Nations Conference on Trade and Development (UNCTAD)'s *Information Economy Report 2015: Unlocking the Potential of E-commerce for Developing Countries*. The percentage of individuals using the internet, credit card, secure internet servers per 1 million people and the percentage of the population having mail delivered at home are the four pillars of the index. The statistical source of the indicators that used in the index are Eurostat, national surveys and World Bank surveys. "The UNCTAD B2C E-commerce Index value is strongly positively correlated to the variation in the share of individuals shopping online" (UNCTAD, 2015, p. 41). The report highlight the importance of the home delivery in expansion of e-commerce due to the fact that internet penetration has reached a certain threshold. The report advices a cost-effective, private, proprietary and closed-delivery network, which supports e-commerce growth.

In 2016, UNCTAD issued a technical note which is called *B2C E-commerce Index 2016*. In the report, UNCTAD tried to evaluate the e-commerce index by using four indicators just like its previous attempt. Internet users, secure servers per 1 million inhabitants and credit card penetration are still in the index, but postal reliability score is used instead of postal delivery at home. In addition, geographical area is expanded from 130 to 137 economies. The report states that the top 10 positions are filled with the upper-income economies (UNCTAD, 2016, p. 10). The report adds that the African region lags significantly behind for this index.

The e-commerce index of UNCTAD has been used in various studies to show the readiness of countries. In 2015, International Trade Center used the index to show the African countries' trade capacity among the other regions (International Trade Center, 2015, p. 9). The reports also give a clear definition of barriers hampering the development of e-commerce in Africa. Additionally, United Nations Economic and Social Commission for Asia and Pacific (ESCAP) utilized the results of the *UNCTAD B2C E-commerce Index 2016* report. The report underlined the problematic sides of the measuring e-commerce because of unreliable data. It posits that most available data is B2C e-commerce statistics such as online shopping (ESCAP,

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2016, p. 105).

In 2014, apart from the efforts of international organizations, the Economist tried to measure the e-trade readiness of the G20 countries in *the G20 e-Trade Readiness Index* report. The transform of global trade dynamics has caused firms to take advantage of the information and communication technologies. In order to evaluate the effect of this transform, e-trade index is created by the Economist. The index composed of 5 thematic categories[17] including more than 40 indicators. The report states that customs procedures, postal systems, data privacy regulations, cooperation and coherence among e-trade participants and internet access are the leading issues to encourage the e-trade (The Economist, 2014, p. 21).

As in the previous studies, in this research, the aim is to define the readiness of countries to conduct e-commerce. In order to get an e-commerce index, 44 Sub-Saharan African countries are selected for analysis. In the Table 2, countries and their income groups are given according to World Bank country classification. These countries are in the low income, lower middle income and upper middle income economies. Also, they are in the lending category of IBRD and IDA.

Table 1 Selected Countries of Sub-Saharan Africa.

	Country	Income group		Country	Income group
1	Angola	Upper middle income	23	Lesotho	Lower middle income
2	Benin	Low income	24	Liberia	Low income
3	Botswana	Upper middle income	25	Madagascar	Low income
4	Burkina Faso	Low income	26	Malawi	Low income
5	Burundi	Low income	27	Mali	Low income
6	Cabo Verde	Lower middle income	28	Mauritania	Lower middle income
7	Cameroon	Lower middle income	29	Mozambique	Low income
8	Central African Republic	Low income	30	Namibia	Upper middle income
9	Chad	Low income	31	Niger	Low income
10	Comoros	Low income	32	Nigeria	Lower middle income
11	Congo, Dem. Rep.	Low income	33	Rwanda	Low income
12	Congo, Rep	Lower middle income	34	São Tomé and Principe	Lower middle income
13	Côte d'Ivoire	Lower middle income	35	Senegal	Low income
14	Equatorial Guinea	Upper middle income	36	Sierra Leone	Low income
15	Eritrea	Low income	37	South Sudan	Low income
16	Ethiopia	Low income	38	Sudan	Lower middle income
17	Gabon	Upper middle income	39	Swaziland	Lower middle income
18	Gambia, The	Low income	40	Tanzania	Low income
19	Ghana	Lower middle income	41	Togo	Low income
20	Guinea	Low income	42	Uganda	Low income
21	Guinea-Bissau	Low income	43	Zambia	Lower middle income
22	Kenya	Lower middle income	44	Zimbabwe	Low income

Source: World Bank Country and Lending Groups, Country Classification.

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[17] Investment climate, Internet environment, international trading environment, regulatory and legal framework, and e-payments environment.

The e-commerce index is composed of six indicators. Similar method is used in the *UNCTAD B2C E-commerce Index 2016* which used 4 indicators[18]. The indicators of this study are obtained from World Bank Development Indicators[19]. In this respect, the study uses more indicators than the study of UNCTAD and focuses on one region. Indicators are shown in Table 3.

Table 2 Calculation of E-Commerce Index.

Indicator	
Access to electricity (% of population, 2012)	A
Cost of business start-up procedures (% of GNI per capita, 2015)	B
Fixed broadband subscriptions (per 100 people,2015)	C
Internet users (per 100 people, 2015)	D
Mobile cellular subscriptions (per 100 people, 2015)	E
Secure Internet servers (per 1 million people, 2015)	F
E-Commerce Index	(A+B+C+D+E+F)/6

The e-commerce index is the arithmetical mean of six indicators. For the purpose of increasing the contribution of fixed broadband subscriptions andsecure internet servers, their values are normalizes according the highest value of each[20].

V. Results

In table 4, the e-commerce index scores of Sub-Saharan African counties are given. Along with the e-commerce indexes, Human Development Index[21] scores of each country are shown too. At first sight, it is observable that countries which have higher HDI take the top of the list. In addition to that observation, the correlation between E-commerce index and HDI is 0,58. It can be concluded that they have a moderate positive relationship.

Table 3 Sub- Saharan African Counties, by E-Commerce Scores.

	Country	HDI	E-Commerce Index		Country	HDI	E-Commerce Index
1	Cabo Verde	0,646	0,896	23	Guinea	0,411	0,332
2	South Sudan	0,467	0,630	24	Cameroon	0,512	0,317
3	Botswana	0,698	0,618	25	Guinea-Bissau	0,420	0,307
4	Gabon	0,684	0,588	26	Ethiopia	0,442	0,305
5	Gambia, The	0,441	0,583	27	Rwanda	0,483	0,303
6	Namibia	0,628	0,567	28	Angola	0,532	0,291
7	Zimbabwe	0,509	0,533	29	Zambia	0,586	0,286
8	Senegal	0,466	0,471	30	Lesotho	0,497	0,283
9	Equatorial Guinea	0,587	0,470	31	Mauritania	0,506	0,272
10	Ghana	0,579	0,439	32	Sierra Leone	0,413	0,256
11	Mali	0,419	0,420	33	Burkina Faso	0,402	0,254
12	Côte d'Ivoire	0,462	0,411	34	Sudan	0,479	0,245
13	Central African	0,350	0,400	35	Uganda	0,483	0,242

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[18] Internet use penetration, secure servers per 1 million inhabitants, credit card penetration and postal reliability score.
[19] By December 2016, latest available data for each indicator.
[20] Similar method is used for UNCTAD B2C e-commerce index 2016.
[21] HDI of 2014.

	Republic						
14	Swaziland	0,531	0,399	36	Malawi	0,445	0,240
15	Togo	0,484	0,390	37	Niger	0,348	0,223
16	Comoros	0,503	0,383	38	Tanzania	0,521	0,223
17	Nigeria	0,514	0,377	39	Liberia	0,430	0,219
18	Kenya	0,548	0,377	40	Mozambique	0,416	0,215
19	São Tomé and Principe	0,555	0,369	41	Madagascar	0,510	0,195
20	Congo, Rep	0,591	0,365	42	Congo, Dem. Rep.	0,433	0,173
21	Benin	0,480	0,354	43	Eritrea	0,391	0,137
22	Chad	0,392	0,339	44	Burundi	0,400	0,123

Six countries who are in the medium human development group are in the top 10 of the list. It is important to note that index scores in Table 4 shows the readiness in capacity perspective, and not actual trade flows. As a matter of fact, it may help countries to identify their capacities for e-commerce according to these scores. Some features of these countries are not reflected in this index. For example, Kenya has a proficient ICT sector, but it takes place in the middle of the list. In addition, Nigeria is the leading economy in the Africa region and largest economy in terms of GDP (International Trade Center, 2015, p. 6)

Conclusion

Due to the harsh economic conditions and their relative backwardness, countries in Africa are the focal point in development studies. Resource scarcity, urbanization, poverty and decades of warfare are the leading problems of this area. In order to break the vicious circle of poverty, the Sub-Saharan African countries should not only solve these problems, but also search for new ways to catch the momentum of economic development. For this reason, figuring out the new ways of trade is vital to improve the quality of life in Africa.

The index could be seen as a good starting point for measurement of e-commerce and provide an easy way to compare readiness between countries. It allows countries to compare performances of sub-Saharan African countries. In addition, it gives and overall picture of the region and can contribute to any initiative to stimulate the e-commerce of the region. On the other hand, the index is lack of areas such as legal-regulatory environment, investment climate, and payment environment. The lacking subjects could be a part of the future study just as the report of the Economist.

In order to increase e-commerce readiness of the sub-Saharan African countries, the legal and regulatory framework should be defined clearly to increase the level of trust in online transactions. Along with the sufficient infrastructure for information and communication technologies, cost-effective, private, proprietary, closed-delivery network, reliable data, cooperation, and coherence among e-commerce participants are a necessity for the growth of e-commerce.

It is assumed that international trade has a positive effect of increasing the well being of the people. E-commerce will not just help the increase the wealth of these countries, but also contribute an increase in HDI. On the other hand, e-commerce alone can not be assumed responsible for high level of well being of people. This result can be interpreted by highlighting the contribution of e-commerce in people's living standards and this interpretation is compatible with the spirit of the HDI which is an indicator of what people can be and do.

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REFERENCES

African Development Bank (2015), R*egional Development and Spatial Inclusion: African Economic Outlook 2015*, United Nations Development Programme.

ESCAP. (2016). *Asia-Pacific Trade and Investment Report 2016: Recent Trends and Developments.* United Nations.

Fraumeni, Barbara M. (2001), "E-Commerce: Measurement and Measurement Issues", *The American Economic Review , 91* (2), 318-322.

Lendle, Andreas, Olarreaga, Marcelo, Schropp, Simon, & Vezina, Pierre-Louis (2012), "There Goes Gravity: How eBay Reduces Trade Costs", *Policy Research Working Paper ; no. WPS 6253*.

International Trade Center. (2015). *International E-Commerce in Africa: The Way Forward.* Geneva: ITC.

Martens, Bertin (2013), *What does Economic Research tell us about Cross-border e-Commerce in the EU Digital Single Market?,* Publications Office of the European Union.

Morgan-Thomas, Anna (2009), "Online activities and export performance of the smaller firm: A capability perspective", *European Journal of International Management, 3* (3), 266-285.

Mıhcı, Hakan, & Taner, Mehmet Tolga (2014). "Comparative Human Development and Gender Equality Performance Analysis of Middle Eastern and North African Countries with Turkey", *International Journal of Economics and Financial Issues , 4* (4), 859-869.

P. Schneider, Gary (2015), *Electronic Commerce,* Connecticut: Cengage Learning.

The Economist. (2014). *The G20 e-Trade Readiness Index.* London: The Economist Intelligence Unit.

UNCTAD. (2015). *Information Economy Report 2015: Unlocking the Potential of E-commerce for Developing Countries.* New York: United Nations.

UNCTAD (2016), *UNCTAD B2C E-Commerce Index 2016,* UNCTAD Technical Notes on ICT for Development.

UNDP (2015), *Human Development Report 2015: Work for Human Development*, New York: United Nations Development Programme.

United Nations (2015), *World Population Prospects: The 2015 Revision*, New York: Department of Economic and Social Affairs, Population Division.

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Appendix A

Country	Sub-Saharan Africa Countries' Multidimensional Poverty Index Results		
	Multidimensional Poverty Index (MPI = H*A)	Headcount ratio: Population in multidimensional poverty (H)	Intensity of deprivation among the poor (A)
	Range 0 to 1	% Population	Average % of weighted deprivations
South Africa	0,044	11,1	39,5
Gabon	0,070	16,5	42,5
Swaziland	0,086	20,4	41,9
Ghana	0,139	30,4	45,8
Sao Tome and Principe	0,154	34,5	44,7
Lesotho	0,156	35,3	44,1
Zimbabwe	0,172	39,1	44,0
Comoros	0,173	36,0	47,9
Congo, Republic of	0,181	39,7	45,7
Namibia	0,187	39,6	47,2
Kenya	0,229	47,8	48,0
Cameroon	0,248	46,0	53,8
Togo	0,250	49,8	50,3
Nigeria	0,303	53,2	56,8
Benin	0,307	62,2	49,3
Cote d'Ivoire	0,310	58,7	52,8
Gambia	0,324	60,4	53,6
Zambia	0,328	64,2	51,2
Senegal	0,332	59,8	55,5
Tanzania, United Republic of	0,332	65,6	50,7
Malawi	0,334	66,7	50,1
Rwanda	0,350	69,0	50,8
Mauritania	0,352	61,7	57,1
Madagascar	0,357	66,9	53,3
Uganda	0,367	69,9	52,5
Liberia	0,374	71,2	52,5
Mozambique	0,389	69,6	55,9
Congo, Democratic Republic of the	0,401	75,1	53,4
Central African Republic	0,430	77,6	55,5
Burundi	0,454	80,8	56,2
Mali	0,457	77,7	58,9
Guinea	0,459	75,1	61,1
Guinea-Bissau	0,462	77,5	59,6
Sierra Leone	0,464	81,0	57,3
Burkina Faso	0,535	84,0	63,7
Chad	0,554	87,2	63,5
Ethiopia	0,564	87,3	64,6
Niger	0,605	89,3	67,7

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