

# Automation And Trade Facilitation In Kenya: Lessons From Covid-19

MOSES KABIRU MUGWE

Email: [Mugweskab1@gmail.com](mailto:Mugweskab1@gmail.com)

DOI: 10.29322/IJSRP.12.02.2022.p12272

<http://dx.doi.org/10.29322/IJSRP.12.02.2022.p12272>

Paper Received Date: 28th January 2022

Paper Acceptance Date: 07th February 2022

Paper Publication Date: 19th February 2022

**Abstract:** The aim of this paper was to establish the influence of automations on trade facilitation, particularly during the COVID-19 pandemic. Trade is essential to a country's economic growth and development, thus the continued efforts by the government to facilitate this important factor. Automation has been one of the major approaches used to facilitate trade in Kenya. The automations have been aimed at enhancing paperless trade, and making the process more efficient, lesser costly and more effective. Through a descriptive research approach, the study sought to collect and analyse data from key stakeholders and agencies in trade facilitation. This was in an effort to assess the automations adopted and how they have enhanced trade facilitation, as well as the role of these automations during COVID-19 pandemic. The findings revealed that among the automations adopted were the e-citizen platform to enhance online registration of business, the iCMS system to enable early clearance of goods, real-time monitoring systems to track the cargo trucks among others. These systems and automations were found to extensively enhance trade facilitation by saving on time spent in acquiring license and clearing goods and reducing the costs. The paper concludes that while COVID-19 pandemic affected trade facilitation negatively, the embraced automations played an integral role on salvaging the situation. It is recommended that further automations are embraced to integrate lessons learned from the emerging issues such as the COVID-19 pandemic. This will ensure that trade is effectively facilitated even in worst circumstances.

**Keywords:** Automation, Trade Facilitation, COVID-19 Pandemic

## 1.0 INTRODUCTION

### 1.1 Background of the Study

In the current 21<sup>st</sup> century, trade has become an integral aspect in the economic growth and development of most countries, including the developing ones. This shows the continued focus by most of the governments to enhance and facilitate trade, through key processes and mechanisms including automation of services and processes (Fontagné, Orefice, & Piermartini, 2020). Issues related to automation and the use of information and communication technology (ICT) in trade procedures has attracted considerable attention in World Trade Organization (WTO) discussions on trade facilitation and among the academic world as well (Ibrahim & Ajide, 2022; Moisé & Sorescu, 2013). Several developing countries have raised the issue of their lack of capacity to implement potentially new WTO trade facilitation disciplines, which mainly include the automation and embrace of Information Technology in trade facilitation efforts. In spite of the fact that there is still no full understanding of the type and magnitude of the costs involved in implementing trade facilitation measures, it is generally assumed that a substantial part of the costs are attributed to automation. Indeed, automation

This publication is licensed under Creative Commons Attribution CC BY.

<http://dx.doi.org/10.29322/IJSRP.12.02.2022.p12272>

[www.ijsrp.org](http://www.ijsrp.org)

gives rise to significant implementation, operating and maintenance costs but the following analysis will show that the great majority of developing countries already have automated customs systems in their main seaports and airports (Chimilila, Sabuni, & Benjamin, 2014, Makunike, 2017, WTO, 2019).

World Trade Organization (WTO) (2018) defines Trade Facilitation (TF) as the process of simplifying and harmonizing the procedures applied to international trade, particularly the requirements and formalities related to importation and exportation as well as to international transit of merchandises. It involves ensuring that businesses and individuals can carry out international trade with minimal barriers, and ensuring that the trade process is smooth and efficient. On the other hand, automation is defined as the process of bringing technology-based systems in the trade facilitation processes and activities. This aims at enhancing the effectiveness of the trade facilitation efforts and making the clearance processes, marketing, supply chain and logistics more efficient and lesser costly (Adaba & Rusu, 2014). Through automation of the trade facilitation processes, more business and individuals are motivated to take part in the international trade since there are lesser and more efficient activities in the trade process.

Trade facilitation in Africa has been at the centre of discussion, with most reports and existing evidence showing that despite the African continent being remarkably rich with its natural resources, diverse cultures and the second most-populous continent, the trade deficits in the continent are still at the highest (United Nations Conference on Trade and Development (UNCTAD – 2020). Despite the efforts by the African countries to enhance intra-trade within themselves and combine their efforts to grasp the international opportunities in the international market, very little has been achieved (Tevdovski, 2016). In addition, many African countries are Members of several regional economic groupings as well as the most recent African Continental Free Trade Agreement (AfCFTA), which entered in force in April 2019, in order to boost intra-African trade, enhance Africa's regional and continental integration, and further develop the industrial and manufacturing sector of their economies. However, the fruits of these efforts are yet to be significantly achieved, as many countries continue to have imbalances in their trade, with the local economies and businesses suffering most (Abdin, 2019). Nevertheless, Africa's share in world merchandise trade remains very low at 2.7% in 2018; and over the past ten years, Africa's share in world exports declined from 3.5% in 2008 to 2.5% in 2018, the lowest regional share.

In Kenya, international trade and trade facilitation difficulties have not been so different from the rest of the Sub-Saharan Africa. As the government's commitment to enhance and facilitate trade in the country, several efforts have been taken and one includes the automation of some of the processes in the international trade operations. Through the Kenyan Revenue Authority (KRA), the government has been keen on enhancing automation through introduction of key measures such as the Integrated Customs Management Systems (iCMS) which is used to clear goods at the port of entry, and allows declaration of the goods even before the ship docks at the port. This has majorly helped in the reduction of the time spent on clearance of goods, thus saving on costs and

enhancing efficiency and effectiveness (KRA, 2018). Moreover, the introduction of One-stop Boarder Posts has been instrumental in enhancing the clearance of goods at the boarder, again saving on costs and time. Integrating the agencies involved in trade facilitation with the KRA through the Community Based System (CBS) has also been regarded as an essential automation strategy that would significantly enhance the trade facilitation. The government has also promoted digitization and automation of trade transaction processes through the establishment of the National Electronic Single Window System (authorized under the National Electronic Single Window System Act, 2016), which aims to address challenges related to processing of import and export cargo documentation. To ease the delivery and tracking of cargo-delivery trucks in the region, a tracking system known as Regional Electronic Cargo Tracking System (RECTS) was introduced by the government through the Kenya Revenue Authority. While these measures and automation strategies have been instrumental in enhancing the trade facilitation, there is still a lot to be done especially when it comes to emerging issues like the COVID-19 pandemic.

### ***1.1.1 Trade Facilitation and COVID-19 Pandemic***

The literature recognizes that ICT has an important role to play in sustaining economic growth and contributing to the resilience of economies, especially during crises, as witnessed today, with most economies in lockdown or slowly emerging from lockdown due to the COVID-19 pandemic and a looming global macroeconomic recession (UNECA, 2020; IMF, 2020; WTO, 2020). The pandemic is impacting negatively on trade, to ensure the social distancing required by health authorities, economic operators, including consumers and producers, are increasingly using e-commerce for their transactions (Ullah, Pinglu, Ullah, Abbas, & Khan, 2021). This trend is observed in Kenya as well, where certain online platforms have recorded huge increases, thus significantly facilitating domestic consumption (CNBC Africa, 2020).

Mechanisms limiting physical interaction – such as electronically lodging documents in advance, electronic payment of all trade-related taxes, digital certificates and signatures, or 24/7 automated processing of trade declarations – are already available in Europe and Central Asia, North America, Asia-Pacific, and Latin America and the Caribbean. Several economies have already implemented trade facilitation measures at their borders to address the current challenges, including “green lanes” or “corridors” for fast clearance of essential goods (such as at intra-EU borders) or acceptance of digital trade-related documents, including sanitary and phytosanitary certificates, in place of physical copies. The economies that have implemented pre-arrival and 24/7 processing are also maximizing use of special lanes for time-sensitive medical products and food stuffs. Single Windows have been essential in speeding up border procedures, allowing “one stop shop” processing (Kang, Wang & Ramizo, 2021). Many economies across Asia-Pacific, Europe and the Americas already have trade Single Windows in place and can increase their use by making available more targeted user manuals for both border officers and traders. Embracing this in Kenya could be a major boost to the trade facilitation efforts, especially in the

midst of COVID-19, where businesses have found it difficult to transact physically, and set them on drawing board as far as trade is concerned.

## 1.2 Problem Statement

Trade facilitation has been a major point of focus due to its ability to enhance the efficiency, effectiveness and ease of doing business especially in cross-boarder trade (Bazaar Voice, 2020). To enhance the effectiveness of trade facilitation efforts, WTO has emphasized on the need for automation, where some of the process involved in clearance and assessment of compliances are automated through computer-assisted systems. The Kenyan Government through KRA and other agencies such as the Kenya Ports Authority (KPA), Kenya Airports Authority (KAA) among others has implemented several automation systems such as the iCMS, CBS, and RECTs to ensure efficiency and effectiveness in trade processes. However, with the emerging issues such as the COVID-19 pandemic, some of these systems have been lesser helpful as far as trade facilitation is concerned. This is because the automation still involves physical processes and interactions, and the systems have not been effectively integrated with international systems, thus making them lesser effective at such COVID-19 pandemic times.

The restrictions and policies put to combat the spread of the COVID-19 virus by different countries have negatively affected trade. Recently, a trucker boarder blockade by truckers protesting the COVID-19 mandate saw supply chain and trade between Canada and USA immensely affected, forcing authorities to intervene but with minimal success (Newman, 2022). Similarly, a snarl-up of cargo trucks at the Kenya-Uganda Boarder (Malaba) due to COVID-19 testing process, saw trade between Kenya and Uganda affected negatively (Osere, 2022). Available reports show that the trade facilitation in Kenya is yet to achieve the expected results and targets, thus putting a doubt on the effectiveness of the automation measures towards enhancing trade facilitation. As of July 2020, World Bank (2021) ranked Kenya 56 out of 190 countries in ease of doing business, behind other countries like Rwanda (38) and Morocco (53). This is an indication that automation has not effectively contributed to the trade facilitation in Kenya, despite WTO, OECD and empirical evidence portraying automation as a major driver to effectiveness of trade facilitation. This begs the question on whether automation has been effectively done, and whether it has been capable of enhancing trade facilitation in Kenya.

## 1.3 Objectives of the Study

The main aim of this paper is to establish the effect of automation on trade facilitation in Kenya. Specifically, the study has been guided by the following objectives:

1. To establish the major automations that have been embraced in Kenya to facilitate trade
2. To assess the extent to which the available automations have enhanced trade facilitation in Kenya

3. To examine the role played by automations in enhancing trade facilitation during COVID-19 Pandemic in Kenya.

## 2.0 Literature Review

Trade facilitation is instrumental in enhancing economic growth and continued sustainability of the country's economy. Studies have shown the need for facilitation of trade by the governments and international agencies, but the issue of automation has been highly regarded. While assessing the impact of automation on trade facilitation, Fontagné, Orefice and Piermartini (2020) indicated that automation would be essential in enabling businesses to market their products to international markets through e-commerce platforms and have arranged deliveries through automated clearance systems. Kabiku (2019) assessed the need for automation in trade facilitation and found out that trade is a process that requires adequate and efficient information technology for effectiveness.

The role of automation has also been expounded by Shiberu and Tamene (2021) who indicate that when processes in the trade regulations and policies are automated, the waiting-time is reduced and processes harmonized for efficiency, thus encouraging international and cross-border trade. Duval, Utoktham and Kravchenko (2018) conducted a study on the effect of implementation of digital trade facilitation on trade costs in Asia. The study used the data from the United Nations Global Survey on Trade Facilitation where the findings revealed that full implementation of binding and non-binding WTO TFA measures together with other paperless and cross-border trade facilitation measures (digital trade facilitation) helped decrease trade costs by more than 26%, cutting international transaction costs in Asia and the Pacific by about \$1.2 trillion annually. According to Duval, Utoktham and Kravchenko (2018), the policies which were set by WTO facilitated trade in UN economies which involved legal and technical frameworks.

The study by Larry, Mupanduki and Ndonga (2018) aimed at finding out the impact and implications of the WTO trade facilitation through automation agreement in East and Southern Africa. The findings revealed that automation of processes such as customs clearance, ensured lesser time was spent at borders, hence more trade was facilitated across the borders.

Uzzaman and Yusuf (2011) support the embrace of E-commerce as one of the automations that would significantly enhance the trade facilitation. While citing online platforms such as Amazon and Alibaba, Remiers (2018) indicates that by embracing technology and automation, these companies have penetrated many global markets, and their success has mainly been contributed by the automations of trade processes in the countries of origin and other major markets. E-commerce and the use of digital platforms accord Kenya the opportunity to diversify its export markets and move into higher value-added production segments, rather than concentrating on traditional exports (e.g., coffee, tea, fruits and vegetables). Export opportunities provided by e-commerce may help to ensure longer-term firm survival in Kenya.

Chacha and Edwards (2017) established that only a few Kenyan exporters survive beyond the first year, and that selling to a larger number of destination countries (among other factors) is associated with longer survival in international markets. At the same time, Suominen (2017), in a study conducted in 14 developing economies (Argentina, Bangladesh, Brazil, Chile, Colombia, Ghana, India, Kenya, Mexico, Nigeria, Pakistan, the Philippines, South Africa and Uruguay), shows that on average 63 per cent of online sellers sell to two or more markets, while only one third of offline sellers who export sell to more than one market (Benz, & Jaax, 2020). Thus it is not surprising that data from eBay suggest that 80 per cent of online exporters survive as exporters after their first year, compared to only one third of offline exporters.

In the midst of COVID-19, automation has highly been emphasized as a way of enhancing trade facilitation particularly in the developing countries. According to UNCTAD (2022), even before the current pandemic took hold, many developing countries were already confronted with challenges to undertake the necessary investments in transport infrastructure and services and trade facilitation reforms. Implementing electronic trade facilitation solutions is easier for countries that already have electronic single windows, modern customs clearance systems and digital trade solutions in place (Kumari & Bharti, 2021). Embracing this as proposed by Alexeev (2020) would be essential in promoting trade facilitation during COVID-19 Pandemic.

Digitization of production presents important opportunities for Kenyan manufacturing firms in terms of growth and employment creation. Banga and te Velde (2018) find that digitization has helped to boost Kenya's GDP growth by supporting retail electronic payment systems and financial inclusion, and increasing the vitality of the financial sector. The authors contend that the use of digital technologies and robotics by Kenyan firms would improve efficiency and boost their output.

### **3.0 METHODOLOGY**

#### **3.1 Research Design**

The paper used a descriptive research design which describes the characteristics of something by ensuring complete description of the situation making sure there is minimum bias in the collection of the data and thus reducing the errors in interpreting the data to be collected.

#### **3.2 Target Population**

The study targeted trade facilitation agencies in Kenya which included the Kenya Revenue Authority, Kentrade, Trademark East Africa, Kenya Association of Manufacturers, World Trade Organization representatives, Ministry of Industrialization, trade and Enterprise development and the traders associations. Key representatives from these agencies were the units of observation for the study.

### **3.3 Sampling**

The study used a purposive sampling to identify the key representatives from the trade facilitation agencies. The representatives who are employees working at the agencies were picked on basis of their knowledge with trade facilitation and the automations taken into place to facilitate trade. Two (2) respondents were picked from each agency, making the total sample size to be 12 respondents.

### **3.4 Data Collection Instruments**

The study relied on primary data which was collected using a questionnaire. The questionnaire was designed to capture key information in regard to automation and trade facilitation and it was administered through drop and pick method.

### **3.5 Data Analysis**

The data for this study was analyzed both qualitatively and quantitatively. Qualitative data was analyzed using content analysis whereas quantitative data was analyzed using descriptive statistics and inferential analysis.

## **4.0 FINDINGS**

### **4.1 Automations Implemented to Enhance Trade Facilitation**

The findings revealed that among the main implemented automations in trade facilitation included the community based systems aimed at integrating key agencies in the trade facilitation which include the Kenya Revenue Authority, the Kentrade, the business community among others. This system ensures that the traders are able to access the information required in a one-stop platform, thus saving on time. Agriculture and Food Authority – Integrated Management Information System (AFA IMIS) is another automation which is meant to automate business processes of eight (8) directorates under AFA. Through this system, the traders importing and exporting crops acquire regulatory documents from remote locations and at their convenience without having to visit the agency. Kenya TradeNet System is another system that provides a platform for international trade partners and logistics services providers to lodge the required documentations electronically, thus easing the process of authorization and minimizing paper work.

Another major automation in facilitation of trade is the Integrated Customs Management Systems (iCMS). This is a system which enables the traders to declare their goods way before they arrive at the port. This is meant to ensure that the time taken for declaration at the port is minimized, and traders can efficiently and effectively receive their goods without having to wait for longer period of time. While the previous system (Simba system) required too much manual work and lowly responsive, the iCMS is faster, more efficient and able to handle increased traffic, thus making it more preferable. Regional Electronic Cargo Tracking System (RECTS) is another system that was launched by KRA to enable automatic tracking of cargo, as a way of ensuring security of the goods in transit, minimizing tax evasion and reducing time used to deliver goods to importers and the final consumers.

#### 4.1.1 Adoption of Implemented Automations by the Targeted Users

The results revealed that majority of the respondents (59.4%) rated the adoption of implemented automations in trade facilitation to a great extent, while 14.1% said the automations had been upheld to moderate extent and 26.5% rated the adoption of the automations to a low extent. The findings imply that a good number of the target users are yet to effectively uphold the newly implemented automations in the trade facilitation. While most of the automations are introduced targeting key traders, their full embrace of the systems would be essential in enhancing the success of the automation efforts.

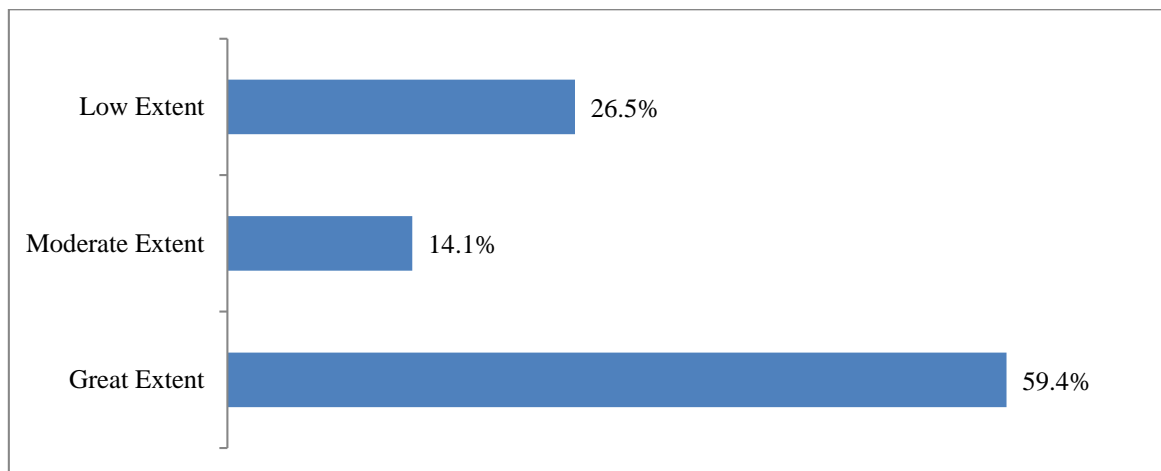


Figure 1: Embrace of Automations by the Target users

#### 4.1.2 Upcoming Technologies

The study sought to establish whether there were technologies in the pipeline meant to automate the trade further. The results revealed that most of the participants (80.7%) agreed that there were upcoming automations. One of the mentioned upcoming automations was real-time monitoring of the cargo and tracking of cargo from the port (or manufacturer in case of local goods meant for export) to its final destination or pick-up point. Another technology mentioned was e-commerce. The expansion of e-commerce was found to be essential in trade facilitation. However, formulation of policies to enhance its regulation and support local traders to trade online to global market was a major proposal to enhance the effectiveness of the e-commerce.



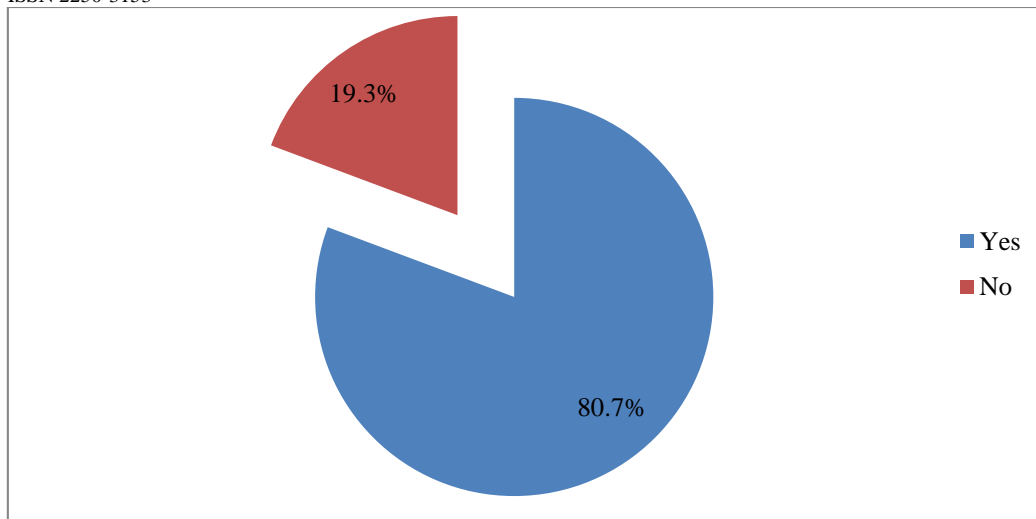


Figure 2: Are There other Upcoming Automations?

#### 4.2 Automations and trade facilitation in Kenya

The study sought to establish the extent to which automation enhanced trade facilitation. The respondents were asked to indicate the extent to which key automation systems contributed to trade facilitation. While a scale of 1 to 5 (1 being the lowest and 5 the highest) was given, the findings are shown in mean and standard deviation, where a mean of between 3.2 and above imply most ratings were 4 and 5, while a mean of 3.1 and below imply most ratings were 3 and below. As the results show, iCMS was the highest rated at 4.08, CBS was rated at 3.99, RECTS was rated at a mean of 3.76, AEOs was rated at 3.77 while real time cargo tracking was rated at 3.81. This implies that most of these systems were highly rated to influence trade facilitation. The e-citizen platform is another automated system that was found to enhance trade facilitation as rated at 4.01. The platform enables the traders to register local and foreign businesses online and remotely, thus making the previously hectic business registration process more effective, timely and efficient. Information for Trade in Kenya Portal (InfoTradeKenya) is another system that was found to be essential in promoting trade facilitation as rated at 3.64. The InforTradeKenya is a platform that provides all the necessary information regarding trade (import and export process), thus enabling traders to easily learn on how to carry out the cross-border and other related types of trade.

Table 1: Rating Trade Facilitation Automations

System	Mean	Std. Dev.
Integrated Customs Management Systems (iCMS)	4.08	0.89
Community Based System (CBS)	3.99	0.91
Regional Electronic Cargo Tracking System (RECTS)	3.76	0.98
E-citizen Platform	4.01	0.88
Authorised Economic Operators (AEOs) certificates	3.77	0.98
Information for Trade in Kenya Portal (InfoTradeKenya)	3.64	1.02
Real-time Cargo monitoring (tracking)	3.81	0.97

### 4.3 Automations and trade facilitation during COVID-19 Pandemic in Kenya

The study sought to establish the extent to which the automations embraced were affected by COVID-19 pandemic or were instrumental in enhancing trade during COVID-19. The findings as shown in Figure 3 revealed that most of the respondents felt that the embraced automations had influenced trade facilitation during COVID-19 pandemic to a great extent. This is an indication that despite the recorded decline in trade during the emergence of COVID-19 pandemic, the embraced automations were instrumental in supporting and facilitating trade during the period.

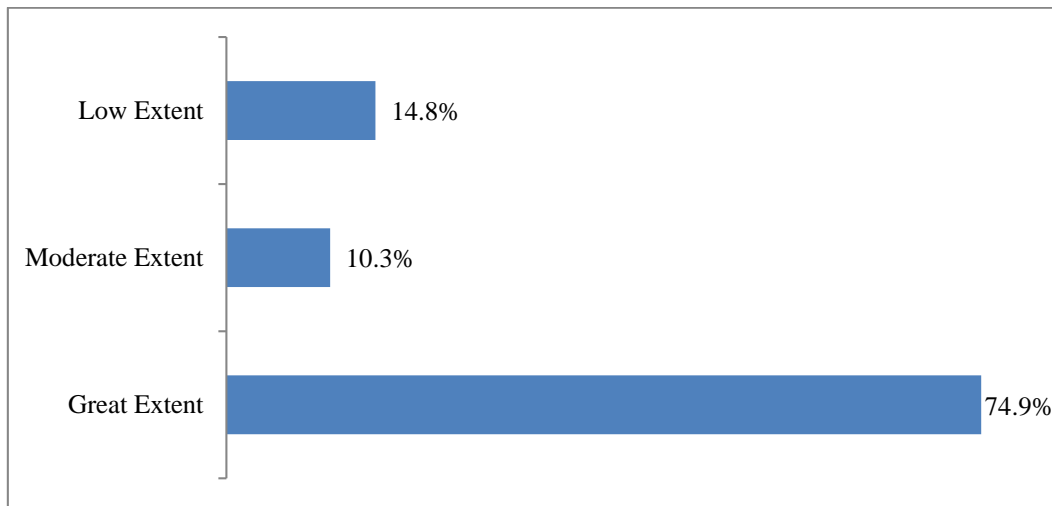


Figure 3: Automations and Trade Facilitation during COVID-19

The respondents were asked to indicate the extent to which they agreed with statements regarding trade facilitation by the embraced automations during COVID-19. As the results on Table 3 portray, majority agreed that systems such as iCMS, CBS, AEOs and e-commerce enhanced trade facilitation during covid-19 pandemic by minimizing people movement, reducing paperwork during the pandemic and enhancing the ability of trade activities without physical travels. The findings imply that with increased embrace of automations, trade facilitation would be enhanced, even in times of pandemic such as the COVID-19 by ensuring that despite the restrictions and containment measures, trade activities continue running smoothly.

Table 3: Trade Facilitation through Automations during COVID-19 Pandemic

Aspect	Mean	Std. Dev.
iCMS enabled declaration of goods early thus reducing congestion to minimize the spread	3.92	0.87
Integrating key agencies through CBS reduced the time for accessing each of the agencies at a time	3.80	0.96
Increased embrace of E-commerce has minimized people movement amid	3.79	0.98

the restriction measures		
Issuing AEOs certificates through iCMS has enabled global traders access the local market through e-commerce	3.65	1.03

#### 4.4 Lessons from COVID-19 Pandemic

The study sought to establish the lessons learnt during COVID-19 as far as trade facilitation through automations is concerned. The main noted recommendation was to have more effective, robust and up-to date systems which require minimal or no paperwork for complete transactions. It was also established that majority of the practitioners had learnt the need for training and awareness creation to ensure that all the target users of the automations and new systems are able to use them with ease so as to have lesser difficulties.

##### 4.4.1 Trend of Trade Before and After COVID-19

Data obtained from the World Bank, the Central Bank of Kenya and the Trademark East Africa revealed the trend of the trade in the country for a period of between 2021 and 2017. The trade as shown in Figure 4 revealed that the imports slightly declined in 2020 to Kshs.1.64 trillion from Kshs.1.80 trillion in 2019, but increased to Kshs.1.91 trillion in 2021. The exports declined slightly from Kshs.770.5 billion in 2019 to Kshs.770.4 billion in 2020. The trade balance increased from Kshs.-1.20 trillion to Kshs.-999.21 billion in 2020. The results imply that the trade declined in 2020 as a result of COVID-19 pandemic, but not to a major extent which could be as a result of the automations adapted.

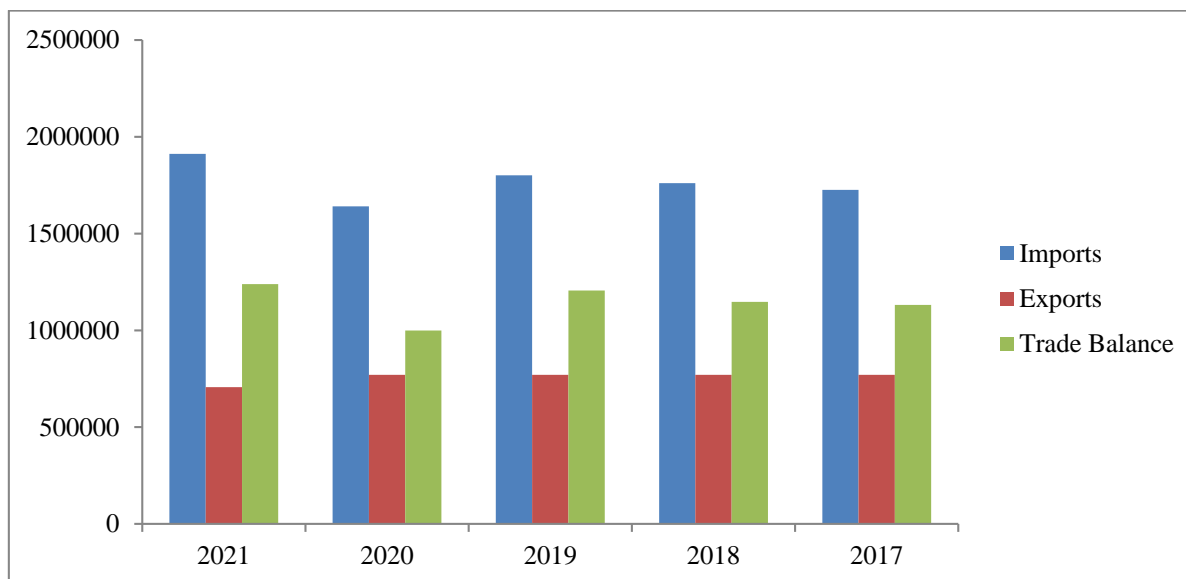


Figure 5: Trend of Trade

Table 4: Imports, Exports and Trade Balance

Year	Imports (Kshs. '000')	Exports (Kshs. '000')	Trade Balance (Kshs. '000')
------	-----------------------	-----------------------	-----------------------------

2021	1,911,690	706,267	(1,239,077)
2020	1,640,247	770,474.5	(999,205.4)
2019	1,800,962	770,475.9	(1,205,583)
2018	1,760,221	770,477.3	(1,147,293)
2017	1,725,623	770,478.8	(1,131,494)

As the results portray, while there were projections that trade would be enhanced and the gap in trade balance reduced between 2019 and 2021, this was not the case, with exports declining consecutively from 2017 to 2021. On the other hand, the imports increased between 2017 and 2019 from Kshs.1.72 trillion to Kshs.1.80 trillion reduced in 2020 to Kshs.1.64 trillion and increased steadily in 2021 to Kshs.1.91 trillion. This shows that the increasing trend of imports was affected by the COVID-19 in 2020, since this was the year when the pandemic was affecting every country globally, but increased in 2021, when the recovery from the pandemic was slowly being realized. The findings imply that while the pandemic affected the trade, there were still high deficits, with imports overly exceeding exports, thus showing the need for further efforts in facilitating trade, particularly through automations.

### CONCLUSION AND RECOMMENDATIONS

Digital trade and digitally enabled transactions have been gaining traction in Kenya. This digitalization has been buttressed by not only the legislation governing Information and Communications Technology (ICT) services, but also by the adoption of the Digital Economy Blueprint and the government’s commitment to embrace automation in its trade facilitation efforts. Some of the steps that the government of Kenya has undertaken to promote paperless trade include developing the National Electronic Single Window System aimed at facilitating international trade by reducing delays and lowering the cost of clearance of goods at the borders, while maintaining the requisite controls and collection of duties and taxes. Other automations such as the iCMS system by the Kenya Revenue Authority has extensively propped the traders to declare their goods early before the ship docked into the port, thus saving on time and costs. Cargo tracking systems such as the RECTS were also found to be essential in enhancing the trade facilitation by ensuring the surety of the goods in transit, reducing tax evasion and enhancing monitoring of the goods in transit for timely delivery to the consumers. Community Based System was also found to be effectively contributing to the ease of doing business by ensuring that key trade facilitation agencies were interlinked and integrated, thus making the process of certification and authorization efficient and cost-effective.

The study concluded that the emergence of COVID-19 pandemic negatively affected the trade facilitation and most of the efforts made to facilitate trade were lesser fruitful, since during their formulation there were no anticipation and forecast of emergencies like

the pandemic. Some trade facilitation processes, despite being automated required human intervention, thus not being viable during total lockdown period resulting to trade disruption.

The study recommends the need for further enhancement of the automations and systems to ensure that paper work is completely eradicated in the trade facilitation process so as to fully integrate automation of the processes. The success of the process will require adequate funding from the government and international partners to support the strength of the systems to handle the entire process without requiring manual operations. The government through key agencies such as the KRA ought to speed up the process of implementing the single-window system by including all the trade facilitation agencies in one platform and ensuring that they are all integrated and committed to support and facilitate trade through automation.

The snarl-up experienced in the Kenya-Uganda border (Malaba) as a result of delays in COVID-19 testing of the truck drivers exposed the gap in lack of harmonization of policies between key trade partners such as Kenya and Uganda. It is recommended that a system to integrate and harmonize policies such as the COVID-19 testing and vaccination certificates is put in place to ensure that key trade partners do not experience delays during verification processes. This will save on time and enhance the effectiveness and efficiency of trade activities for mutual benefit.

## REFERENCES

- Abdin, M. D. (2019). How to Strengthen Trade Facilitation Reforms. *How to Strengthen Trade Facilitation Reforms (December 19, 2019)*.
- Adaba, G. B., & Rusu, L. (2014). E-trade facilitation in Ghana: A capability approach perspective. *The Electronic Journal of Information Systems in Developing Countries*, 63(1), 1-13.
- Alexeev, G. (2020), "The effects of COVID-19 on U.S. small businesses: Evidence from owners, managers and employees", Vol. NBER Working Paper 27833, <http://www.nber.org/papers/w27833>.
- Bazaar Voice (2020), The impact of COVID-19 on e-commerce by category, <https://www.bazaarvoice.com/blog/the-impact-of-covid-19-on-e-commerce-by-category/>.
- Benz, S. and A. Jaax (2020), "The costs of regulatory barriers to trade in services: New estimates of ad valorem equivalents" OECD Publishing, Paris, <http://dx.doi.org/10.1787/bae97f98-en>.
- Chimilila, C., Sabuni, C., & Benjamin, A. (2014). Trade facilitation in EAC Customs Union: its achievement and implementation in Tanzania. *Journal of Economics and Sustainable Development*, 5(25), 1-15.
- Fontagné, L., Orefice, G., & Piermartini, R. (2020). Making small firms happy? The heterogeneous effect of trade facilitation measures. *Review of International Economics*, 28(3), 565-598.
- Gichuki, N., & Msiska, F. (2021). Customs digitalization and deepening intra-comesa trade.
- Ibrahim, R. L., & Ajide, K. B. (2022). Trade facilitation and environmental quality: empirical evidence from some selected African countries. *Environment, Development and Sustainability*, 24(1), 1282-1312.

- Kang, J., T. Wang and D. Ramizo (2021), The Role of Technology in Business-to-Consumer E-Commerce: Evidence from Asia, <https://www.adb.org/sites/default/files/publication/675186/ewp-632-technologyadoption-b2c-e-commerce-asia.pdf>.
- Kumari, M., & Bharti, N. (2021). Estimating the impact of COVID-19 on South Asia's exports: does trade facilitation matter now more than ever?. *Transnational Corporations Review*, 13(4), 406-421.
- Makunike, C. (2017). The impact of information and communication technology on trade facilitation: a case study of east and Southern Africa.
- Moisé, E., & Sorescu, S. (2013). Trade facilitation indicators: The potential impact of trade facilitation on developing countries' trade.
- Nguyen, A. T., Nguyen, T. T., & Hoang, G. T. (2016). Trade facilitation in ASEAN countries: harmonisation of logistics policies. *Asian-Pacific Economic Literature*, 30(1), 120-134.
- Newman, E. (2022, Feb 10<sup>th</sup>). Truckers blocking the Canada-U.S. border could seriously impact supply chain. *National Public Radio (NPR)*. [Online]. Retrieved From: <https://www.npr.org/2022/02/10/1079947548/truckers-blocking-the-canada-u-s-border-could-seriously-impact-supply-chain>
- Osere, E. (2022, Jan 16<sup>th</sup>). Covid-19 testing stepped up at Malaba as traffic stretches 70km; Stakeholders in the transport sector blame slow Covid-19 testing for the traffic jam. *The Star Kenya*. Retrieved from: <https://www.the-star.co.ke/counties/western/2022-01-16-covid-19-testing-stepped-up-at-malaba-as-traffic-stretches-70km/>
- Shiberu, B., & Tamene, B. (2021). Effect of import customs procedure on trade facilitation the case of adama city. *Information technology in industry*, 9(3), 01-16.
- Tevdovski, D. (2016). Trade Facilitation Indicators and Their Potential Impact on Trade between the Countries of South-Eastern Europe. *Scientific Annals of Economics and Business*.
- Ullah, A., Pinglu, C., Ullah, S., Abbas, H. S. M., & Khan, S. (2021). The role of E-governance in combating COVID-19 and promoting sustainable development: a comparative study of China and Pakistan. *Chinese Political Science Review*, 6(1), 86-118.
- UNCTAD. (2022). Global Forum 2022 For National Trade Facilitation Committees: Accelerating the implementation of trade facilitation reforms through the national trade facilitation committees despite the pandemic situation. Retrieved from: [https://unctad.org/system/files/information-document/ntfc-global-forum-2022-programme-core-sessions\\_0.pdf](https://unctad.org/system/files/information-document/ntfc-global-forum-2022-programme-core-sessions_0.pdf)
- United Nations Conference On Trade And Development (UNCTAD). (2020). COVID-19: A 10-Point Action Plan To Strengthen International Trade And Transport Facilitation In Times Of Pandemic. Retrieved from: [https://unctad.org/system/files/official-document/presspb2020d3\\_en.pdf](https://unctad.org/system/files/official-document/presspb2020d3_en.pdf)
- Uzzaman, M. A., & Yusuf, M. A. (2011). The role of Customs and other agencies in trade facilitation in Bangladesh: hindrances and ways forward. *World Customs Journal*, 5(1), 29-42.
- World Bank Group (2020). Trade and COVID-19 Guidance Note Trade Facilitation Best Practices Implemented in Response to the COVID-19 Pandemic. Retrieved from: <https://documents1.worldbank.org/curated/en/824081587487261551/pdf/Trade-and-COVID-19-Guidance-Note-Trade-Facilitation-Best-Practices-Implemented-in-Response-to-the-COVID-19-Pandemic.pdf>
- WTO (2020), E-commerce, trade and the COVID-19 pandemic, [https://www.wto.org/english/tratop\\_e/covid19\\_e/e-commerce\\_report\\_e.pdf](https://www.wto.org/english/tratop_e/covid19_e/e-commerce_report_e.pdf)