

Covid-19 Pandemic as an Accelerator toward Attainment of ICT Policy-Kenya Vision 2030

Samuel W Lusweti*, Collins O Odoyo

Department of Information Technology, School of Computing and Informatics, Masinde Muliro University of Science and Technology, Kenya

Received July 17, 2022; Revised October 19, 2022; Accepted October 25, 2022

Cite This Paper in the Following Citation Styles

(a): [1] Samuel W Lusweti, Collins O Odoyo, "Covid-19 Pandemic as an Accelerator toward Attainment of ICT Policy-Kenya Vision 2030," *Computer Science and Information Technology*, Vol. 10, No. 3, pp. 30 - 35, 2022. DOI: 10.13189/csit.2022.100302.

(b): Samuel W Lusweti, Collins O Odoyo (2022). Covid-19 Pandemic as an Accelerator toward Attainment of ICT Policy-Kenya Vision 2030. *Computer Science and Information Technology*, 10(3), 30 - 35. DOI: 10.13189/csit.2022.100302.

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Abstract Covid-19 pandemic struck the world at the time nobody was really prepared for such a deadly disease. At the onset, everybody was uncertain of what needed to be done in order to stop the highly spreading virus. The World Health Organization (WHO) advised countries to implement containment measures to curb the spread of the disease. Some of these measures included the restriction to movement of people and asking people to work from home. Working from home became the new norm especially in Sub-Saharan Africa. The only way people would work from home was through the use of ICT infrastructure as an enabling technology. In this paper, we evaluated the role of ICT in Kenya and how it has been adopted before and during the period of the pandemic. It was found that before corona virus disease, the ICT policy that was promulgated by the government in 2006 and revised in 2019 faced a lot of challenges during its implementation. These challenges included inadequate E-learning resources, inadequate finances and slow e-commerce uptake. During Covid-19, it was found that some of the objectives of the ICT-Policy were more implemented than before. For instance, there was an enhancement in ICT innovation through local manufacture of ventilators, an improvement in TV broadcasting, enhanced e-commerce adoption, and the availability of affordable internet services. It was consequently found that Kenya is ready to adopt the policy without any challenges provided that all stake-holders play their role as mandated by the ICT policy of 2019.

Keywords ICT-Policy, Covid-19, Internet, E-learning

1. Introduction

The government of Kenya together with international and national stakeholders developed a blue-print for an aspiration of a better society by the year 2030 [1]. The main vision of this blueprint was to create a nation that is prosperous, globally competitive and with a high quality of life for its citizens by the year 2030 [1]. The blueprint was first coined in the year 2006 and updated several times until 2019 whereby some policies under the vision were reviewed for instance ICT policy. The Vision has three pillars which include Economic, Social and Political aspects. ICT policy is one of the policies developed under the umbrella of vision 2030 and reviewed in 2019 to compel the vision towards achievement of social, economic, political and cultural transformation via the use of ICT [2]. This policy could easily be achieved through making the country a 24-hour economy among many other strategies. However, in the year 2020, the world and especially Africa, was severely hit by a pandemic which led to loss of many lives. Kenya was not left out since on 12th March 2021, the Ministry of Health confirmed the first case of a person who tested positive of Coronavirus disease [3]. The pandemic was tagged as Coronavirus which leads to Covid-19 disease. The president of Kenya declared closure of schools and many public places including churches due to the rising cases of Covid-19. All public gatherings, meetings and games were consequently suspended. Because the closure of schools, colleges and universities and suspension of public gatherings were indefinite, various stake holders resorted to employ ICT

services for remote working which became widely known as working from home. This is when the growth of ICT came up faster as many institutions ran towards the implementation of e-learning [4] and many businesses started online buying and selling of goods in Kenya.

2. Methods and Materials

This research paper adopted qualitative research methodology. Secondary data published online on related studies were retrieved and used. Analysis was done using thematic analysis methods.

3. National ICT-Policy (2019)

The government of Kenya together with many other stakeholders in the ICT ecosystems including the Ministry of ICT, the county governments, the Communications Authority of Kenya, and the Konza Technopolis Development Authority among many others have partnered together to ensure the nation achieves Vision 2030 through the implementation of ICT Policy. The policy seeks to develop skills and innovation which includes many ICT-related aspects to help attain its mission. However, for the purpose of this paper, we take into consideration the following objectives as stated in the policy under Human resource development. According to [2], by the year 2030, every Kenyan will be computer literate and demonstrate the ability to engage in digital economy. Therefore, the government will:

- i. Deploy a nationwide e-education system to support schools and higher education institutions by interconnecting them with each other
- ii. Establish education networks for sharing education materials and promote e-learning
- iii. Promote broadcasting and telecommunication services to enable expand digital TV coverage
- iv. Use ICT to gain global recognition for innovation
- v. Drive the development of e-commerce and digital economy

4. Challenges Facing the Implementation of ICT Policy

For the policy to be successfully implemented, the government needs to fully participate by ensuring all stakeholders included in the policy play their role. If well implemented, the policy can have many positive impacts on education, businesses, external linkages, international recognition, and generally on the economy of the country as anticipated. However, the policy has been around since the year 2006 and has had slow uptake due to the following issues:

4.1. Inadequate E-learning Resources

E-learning is the use of electronic components to perform normal teaching. These components include computers and the internet. E-learning can only be successfully implemented if there are enough e-learning infrastructure and manpower like technical knowledge in the use of the platform, Local Area network, stable internet, and digital learning resources [5]. The insufficiency of e-learning resources like infrastructure in Kenyan public universities has greatly hindered the implementation of e-learning as one of the objectives of the ICT Policy [4]. Secondly, the government started the Kenya Institute of Curriculum Development (KICD) which seems to be ill-prepared to handle the Laptop Project for all learners in primary schools in Kenya [6]. Some institutions like universities have however been trying to invest a lot in the acquisition of these platforms and resources to help them successfully implement the e-learning programs. Some have indeed invested in new technologies like cloud computing using thin clients and a central server to interconnect all nodes.

4.2. Inadequate Finances

Funds are monies set aside for the purpose of doing some projects. If there are no funds, then it becomes very difficult to run projects. Many projects stall due to insufficient funds or poor management of funds. In Kenya, lack of funds has negatively impacted the implementation of ICT Policies [6]. E-learning is one of the objectives of ICT policy in Kenya, however to implement this program, a lot of funds need to be pumped into universities and colleges in order to acquire necessary infrastructure including computers, networks and servers. Nonetheless, in universities for example, the budgets allocated towards e-learning have been way too low to support the programs [4]. Before emergency of Covid-19, funding and implementation of e-learning programs in institutions was not being taken with a lot of seriousness it deserved.

4.3. Slow E-commerce Uptake

E-commerce is the use of the internet to conduct business transactions. Adoption of e-commerce and the enabling ICTs are no longer used to gain and maintain competitive advantage but rather for business survival [7]. In Kenya, the State-Owned Enterprises lag behind in adopting new emerging technologies failing to realize the importance of e-commerce [8]. Small and Medium-sized Enterprises (SMEs) have consequently not fully realized the benefits of uptake of e-commerce due to poor and slow adoption of high cost Information Technology as an enabler of e-commerce [9]. These challenges were more greatly affecting the business industry before the onset of the deadly corona virus disease.

5. How Covid-19 has Accelerated Implementation of ICT Policy

Covid-19 is a deadly disease that up now has ravaged the world bringing deaths and making many families suffer. Many lost their jobs especially in developing countries. Nevertheless, this disease made people become more innovative especially in Kenya. The following are the technological advancements in relation to ICT-policy during the pandemic in Kenya.

5.1. Ventilator Manufacture

At the onset of the novel corona virus disease, Kenya had only 500 ventilators serving about 5million people. People infected by the virus and developed respiratory problems needed ventilators to survive [10]. Many lost their lives due to the few and expensive ventilator services available as only a few could afford them. One of the main objectives of Kenya's ICT Policy is to make the nation gain global recognition for innovation [2]. Even so, this has not been so easy to attain until in the wake of the deadly novel Coronavirus disease. In the year 2020, sixteen students of Kenyatta University unveiled new locally manufactured ventilators [11] that helped salvage the country. Furthermore, in May the same year, a team of engineers and doctors from the University of Nairobi launched a home-made portable ventilator [12]. This innovation which would reduce the cost of acquiring the ventilators by 90%, was meant to reduce the problems of patients battling with respiratory problems and would still be useful even after Covid-19 pandemic. The ventilators which were made from a lot of ICT infrastructure like patient heart-beat monitoring computers with high resolution LCD screens were in high demand across the world during the pandemic. They were being used by countries all over the world to

help manage the conditions of patients who were critically suffering from corona virus. These live saving machines imported from other countries were expensive and too few to serve all the people in the world. The Kenyatta University students said they were able to produce 50 ventilators per week at a relatively lower cost. It is therefore clear that during Covid-19, this innovation earned Kenya a global recognition as per the objective of ICT-Policy through the innovation of ventilators by Kenyan locals.

5.2. Promotion of Broadcasting and Telecommunication Services

Promotion of broadcasting and TV coverage is another objective of the ICT-policy in Kenya. The Ministry of ICT mandated the Communication Authority of Kenya (CAK) the authority to facilitate diversification of broadcasting services [13]. That means CAK has the mandate to license, content and media standardization along with the laws governing communication. In the financial year 2020/2021, there was a report generated by CAK from October to December 2020 on broadcasting services. This was the period in which Covid-19 restrictions were at peak in Kenya. At this time, broadcasting was highly improved because the number of new licenses highly increased to meet the target of 25 new licenses during the second quarter (Q2) [13]. Table 1 shows the growth of licenses in 2020/2021.

According to [13], the period of Covid-19 saw an increase in the knowledge base of Kenyans as a result of the increase in the number of TV broadcasting licenses and subsequent increase in airing of religious and education programs. Figure 1 below shows the increase in the number of TV broadcasting stations during the period of October-December during the year 2020 as presented by CAK.

Table 1. New licenses for the period (Q2) [13]

LICENSE FRAMEWORK	LICENSE TYPE	Q1 NEW	Q2 NEW	RENEWALS	TOTAL
Multi Media Services - Broadcasting	Commercial Free To Air Television	8	17	-	25
	Commercial FM Radio	8	6	-	14
	Community FM Radio	1	2	-	3
	Subscription Broadcasting Service	1	0	-	1
Sub-Total		18	25	0	43

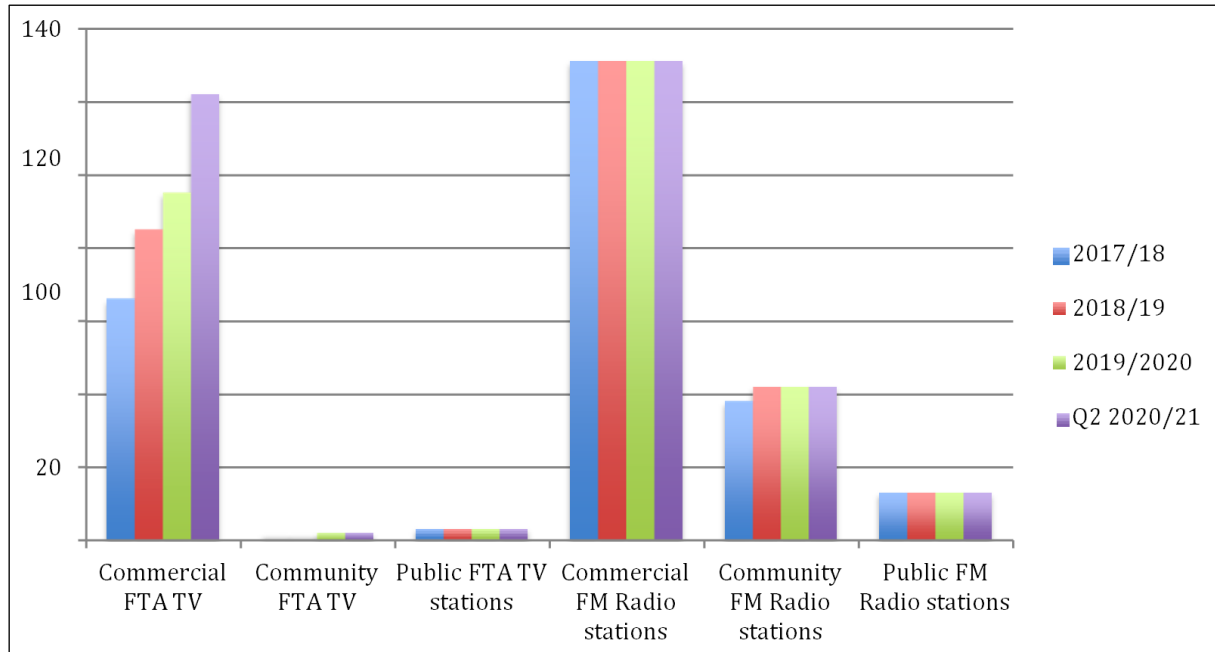


Figure 1. Comparison of the number of broadcasters for Free to Air (FTA) [13]

From Figure 1 above, it can be seen that during the second quarter of the period Q2 2020/2021 alone, there was a dramatic increase in the number of broadcasting FTA TV stations than the whole period of the years 2018/2019 and 2019/2020. That period of Covid-19 alone, helped to fast track the implementation of ICT-Policy than ever before. This could have been due to the fact that many people were at home and wanted to really know what was happening in the world on corona virus. Secondly, many investors wanted to seize the opportunity to reach as many customers as possible through the media, and lastly because students wanted to continue learning while at home through the many education programs made available on different local TV stations. According to [14], the number of TV viewers increased from 6.76 million to 7.09 million people after the government of Kenya issued the country-wide Covid-19 containment measures. Furthermore, the Kenya Institute of Curriculum Development started teaching students through the use of EDU TV Channel. KICD even produced a 24-hour teaching program on the same TV Channel tagged, “KENYA INSTITUTE OF CURRICULUM DEVELOPMENT FIRST TERM 2021 EDU TV PROGRAMME” [15]. This program helped students learn from home due to the impact of Covid-19 that made over 17 million learners stay at home due to the closure of schools. The program is still being aired by the TV channel till today. Secondly, many local TV stations broadcasted live transmissions from the Ministry of Health concerning the situation of Coronavirus in Kenya and the world at large. These broadcasts were being made by the ministry periodically throughout the dark days of the disease. This

communication really enhanced trust in the local stations by citizens and thus everybody was clued on TV eager to hear about the progress of the government in mitigating the deadly effects of this ravaging disease. This means Covid-19 in a way played a role in the promotion of broadcasting and telecommunication services which is one of the objectives of ICT Policy.

5.3. E-commerce Development

E-commerce transforms business processes in many organizations today and in future [16,17]. ICT Policy of Kenya endeavors to promote the development of e-commerce and digital economy. According to UNCTAD’s technology director [18], Covid-19 pandemic made the creative industry in Kenya to market their content online using the available digital platforms thus enhancing e-commerce. The pandemic also saw many institutions and companies improve in their production and selling. A research carried out by Nairobi Garage in 2020 showed that 12 companies including Akili Network, Alphabet, Fuzu and, Glovo among others survived during the pandemic due to e-commerce because they offered their services online throughout the lock down period [19]. A research done by COVID-19 CEMEA Impact Tracker in June 2020 found that during COVID-19 crisis, 71% of Kenyans started online shopping of groceries, 69% started buying drugs online, 54% started online food buying, 34% fashion and 34% luxury [20]. According to [21], many Kenyans started doing online businesses during Covid-19 and they decided to never go back again because many SMEs that didn’t go online did not survive the phase of Covid-19. The

same study done by KNA further indicated that 78% of men and 89% of women reported that online shopping greatly reduced their chance of doing impulse buying hence helping them save money. This shows that ICT policy implementation on e-commerce was timely during the period of Covid-19. Many businesses were able to sell their products and services online more during that period compared to earlier years.

5.4. Affordable Internet

To implement the ICT policy through e-learning, institutions require affordable internet. E-learning requires high-speed and stable internet in order for it to be successful [22]. In developing countries especially in Africa, the internet has been very expensive to acquire and maintain. More so, in Kenya for the past few years, the internet has been very expensive [23] thereby becoming difficult to achieve the objectives of ICT policy. However during the Covid-19 pandemic, the government started collaborating with both private and public sectors to bridge the gap of digital divide by enhancing ICT services [24]. During the period, the government of Kenya partnered with Poa Internet Service provider to help provide affordable internet for students to learn from home and also for employees work from home [25] as the movement restrictions were put in place. In addition to this, Safaricom Company, which is Kenya's largest telecommunication company provided highly affordable data commonly known as Educational Data Pass for teachers and students to enable them teach and learn from home.

6. Conclusions

This paper has pointed out ICT-Policy as one of the pillars of Kenya's Vision 2030. The paper points out how ICT can be used to make Kenya achieve the vision and be known globally. Nevertheless, it is also evident that the ICT Policy itself has had a lot of challenges to be fully implemented. During Covid-19 pandemic, many of the objectives of the ICT policy seemed to be more achieved than ever before. This is because we had no other way out. This is quiet unfortunate as ICT is a robust enabler for industrialization and achievement of economic stability of any nation. We need not wait to seek for ICT services only when we are faced with challenges like those of covid-19. From the data collected, it has been found that the government of Kenya has the ability to partner with the private and public sectors to achieve the goals of ICT policy and industrialize the country better and within the shortest time possible.

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