

COVID-19 Non-Pharmaceutical Intervention Measures and Their Effect on Learning in the Kenyan Universities: A Case Study of United States International University (USIU) -Africa

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Abstract:-The purpose of this study was to investigate the effects of non-pharmaceutical intervention measures on learning in the Kenyan Universities, key focus being USIU-Africa. A descriptive research design was used with a target population of 353 faculty and staff of USIU-A. A sample size of 187 respondents was determined making a good representation of the total population at 95% confidence level and 5% margin of error. By a mixed method approach, data was collected using open ended and close ended questionnaires which were submitted through google docs.

On the aspect of social distancing as an NPI measure, the study revealed that the pandemic had affected the way staff related to each other. The Pearson Correlation test however, revealed that there was no significant relationship between non-pharmaceutical Intervention Measures and learning in the higher learning institutions ($r=-0.010$, $p=0.907$).

The study revealed that COVID-19 control measures have had a big impact on direct contacts, economic and food security. The reduced economies further encouraged the citizens to focus on other priorities and education became a luxury for the few who could afford it during the pandemic period. This further resulted into reduced University revenues since not so many people were able to or considered schooling a priority.

The study concluded that the social fabric of all the constituents was torn with the directive to have online learning and remote working. The loss of jobs following layoff caused lack of livelihoods to the affected employees amidst the government intervention to curb the spread of the disease.

This study therefore recommends capacity building for all staff and facilitation of remote working for its employees.

Keywords:- COVID-19, non-pharmaceutical intervention measures, Higher learning institutions.

I. INTRODUCTION

Corona Virus disease (COVID-19), a natural disaster today is defined as a viral communicable respiratory disease caused by corona virus 2 (SARs-CoV-2), Ministry of Health, (2020). The disease has not only proven to be a health crisis but a human, economic, and social crisis as well. Although

the pandemic as has been declared by World Health Organization, has had very devastating economic effects to the continents, a significant and proportionate effect has been demonstrated both in the social and cultural standing within the societies which has negatively impacted the daily running of activities.

The complexity of the disease on social/ cultural factors such as the hard-held beliefs, ideologies, norms, and values is demonstrated by the novelty of change as is the after math being experienced today. Consequently, the changes have brought with them strategic changes and adaptation in humanity which are continuously impacting businesses economically and socially. For instance, following the outbreak of COVID-19 in the world, a decision was made to temporarily close the education institutions as a principle that large numbers of persons constituted greater risks to safeguarding public health in a pandemic.

According to UNICEF monitoring, by June 7th, 134 countries had already implemented nationwide closure of schools and universities and 38 local closures impacting about 98% of the world's student population. According to Brennan JM., (2020), due to the restrictions on social distancing and lockdown of towns in Wuhan city, there was an increased rate of closures of manufacturing firms in China which led to reduced outbound capacity from China, yet the commodities prices increased. Additionally, due to increased public health requirements, there was an increase in additional border checks which resulted to serious delays. Kang et al., (2020).

In East Africa, Kenya was the first to report the disease as was reported by Health, (2020). the victim was a twenty-seven-year-old lady on the twelve of March 2020 according to the first declared and confirmed case by the ministry of health and since then, a lot has changed socially and culturally. Immediately, the government banned all international events as well as local events to control mass gatherings which had been declared an easy path for transmissions. Since then, many other actions have been taken among them being restriction on public gathering, processions or movement of any kind during the curfew hours either in person or as a group apart from essential service providers Kenya Gazette, (2020b), mandatory use of masks while in public space as well as adhering to social distancing requirement of at least one metre from other persons.

Non-Pharmaceutical Interventions (NPIs) represent the primary mitigation strategies and they are defined as actions that people and communities use to help prevent or limit the spread of an illness *Definitions*, (2014), (Lai et al., (2020) adds that NPIs include both actions an individual and a household can take such as hand washing, social distancing that communities can enact geared towards limiting the spread of a disease that is transmitted from person to person. Lai et al., (2020) explains that NPIs are essential components of the public health response to Covid 19 outbreaks, and they include social distancing, isolation of individuals who are ill, contact tracing, quarantine, travel restrictions, cancellation of mass gathering, hand washing with soap, among others.

Fonseca, (2013), Date, (2009) and Hipp & Perrin, (2009) defines social distance as the prominence of certain social characteristics that form an awareness of similarity with other characteristics as well as an awareness of difference with others not sharing the characteristics. Curfew laws on the other hand are based on deterrence theory, which argues that swift, certain and severe punishments make juveniles to consider the consequences of their actions and hence take part in less criminal activities as demonstrated by Sims & Preston, (2006).

Modern higher education as defined by Alemu, (2018) is organized tertiary learning and training activities and institutions that include conventional universities such as arts, humanities, and science faculties and more specialized universities institutions in agriculture, engineering, science and technology. Higher learning institutions and a university are used interchangeably where the term university is derived from the Latin word university as that means totality or whole and it denotes all kinds of community or corporate such as a guild, a trade or a brotherhood, Alemu, (2018). Eaton, (2019) defines higher education as one that comprises of all post-secondary education, training, and research guidance at education institutions such as universities that are authorized institutions of higher education by state authorities.

Higher education institutions whether public or privately owned are public places which according to a US legal definition is any enclosed indoor area used by the public or serving as a place of work containing two hundred square feet of floor space and includes but not limited to educational facilities. As a public space, higher education is key in ensuring it is anchored in the three primary values which must provide a responsive space, a democratic space and a meaningful space, Carr, Stephen, Francis, Rivlin, & Stone, (1992). The history of the private higher education institutions in Eastern Africa and specifically Kenya cannot ignore the foundation that was laid by the public institutions that preceded them. Kampala Uganda was the first in Eastern Africa in 1921 to open a technical school in Makerere hill and the college offered courses in medicine and agriculture. After operating for one year, the school was renamed Makerere college and its main course focus was technical education with examining body being Cambridge school certificate examination, Pillay, (2010). In 1949, the

school was elevated to university college of East Africa and started offering London degrees, Kinser et al., (2010). Being the only institution of university level in the East African region, it admitted students from the three African colonies Pillay, (2010). In 1956 a constituent college was opened in Kenya, the Royal Technical college of East Africa in Nairobi with major concentrations being Diplomas in technical and commercial education and this college, unlike the Kampala college offered veterinary and engineering education, Akuna, (2017). Immediately the three colonies gained independence there was a dissolution of the University of East Africa which birthed three independent universities in the region. Among the new universities, was Kenya's first university on 25th March 1970 named the University of Nairobi. This was followed by establishment of Kenyatta constituent college in 1972 and others such as Moi university in 1984 a public university, Akuna, (2017).

United States International University (USIU) a San Diego based institution Nairobi campus was established as the first private university in Kenya in 1969 following an agreement between its trustees in USIU San Diego, and the ministry of education in response to the growing demand of quality higher education in Kenya. In 1978, after operating for nine years in Kenya, USIU Africa was accredited by the Western Association of Schools and Colleges (WASC), and 21 years later in 1999, the university received its charter through the Commission for University education (CUE) Kenya, making it the only university with dual accreditation in Kenya, Student Affairs, (2019).

USIU (Africa) has six schools with the oldest being the school of social sciences and the newest being the school of communication, cinematics, and creative arts. According to a report by the student affairs body, the university has a population of 8,500 that represent seventy-one nationalities with 17% of the population comprising of international students. The student to faculty ratio is 31:1 made of 147 full time faculty and 188 adjunct faculty members.

II. LITERATURE REVIEW

The first confirmed COVID-19 case was reported in the country on 12th March 2020 from a Kenyan citizen travelling from United States of America via London, Health, (2020). Following the case, the government announced some non-pharmacological containment measures that had to be adhered to as a way of controlling the transmission of the disease.

NPIs are usually the most accessible interventions because vaccines take a longer time to be availed to the society. Some NPIs may be able to delay the start of a pandemic while others may be used to delay the peak of a pandemic allowing time for vaccines to be produced and distributed or for health care providers to be well prepared for a surge in cases WHO, (2019). Despite their efficacy, many government agencies and members of the public may be hesitant to adopt NPIs. Non-pharmaceutical intervention have emerged as a first line in protection and mitigation of SARS-CoV-2 pandemic given the evidence suggesting the

efficacy of such interventions in previous pandemics Kantor & Kantor, (2020).

Among the measures introduced were closure of cross border travel, quarantine, social distancing, use of hand sanitizers or hand washing with soap, use of masks, closure of learning institutions, churches, restaurants, reduced commuter numbers to half the number in public vehicles while they ensured they provided sanitizers to them Okidi, (2020). This measures as was clearly demonstrated by the government bodies were expected to help contain the spread of the disease but as a result, there have arisen major challenges in the education sector and especially in the higher learning institutions as will be demonstrated by the research study.

Secondly, other medical control measures that were introduced by the government include the public health interventions such as health care testing, contact tracing, isolation for cases not requiring hospital admissions, mass symptom screening and molecular testing for symptomatic individuals, and lastly adhering to quarantine guidelines for household contacts who tested negative CDC, (2020).

A study carried out by Kantor & Kantor, (2020), established that majority of the people agreed that NPIs were effective in slowing down the spread of Covid-19. Additionally, the study found that among those who refused to engage in NPIS was a result of outcome expectation (NPIs effectiveness) and process expectation (NPIs inconveniences). In another study on influenza pandemic by Hatchett et al., (2007), it was found out that NPIs were capable of reducing influenza transmission in 1918 although their benefits were limited to the time they were in effect.

Considering the interventions introduced, colleges and universities are taking certain actions beforehand to secure the well-being of their students, the staff, and the community at large. Among the new measures being taken include, a massive reorganization of the lecture halls, libraries, cafeteria, and the student hostels, among others. Additionally, new teaching methods such as digital classrooms have been adopted to ensure continuity of the learning while they await the reopening of the institutions. The study therefore seeks to investigate how these, and other measures will affect the higher learning institutions both in the short- and long-term periods. This measures as clearly explained by the government bodies were expected to help contain the spread of the disease but as expected, they have impacted the education sector as will be demonstrated by the case study of United States International University (Africa).

A. *Social Distance on Learning in the Higher Learning Institutions*

According to oxford learners dictionary, social is an adjective for activities in which people meet each other for pleasure, while distance is the amount of space between two things or people. According to Kenya Gazette, (2020), gathering is defined as any gathering, grouping, assembly, crowd or procession in one or any public road or space, any building, place or premises. Social distancing is a non-pharmaceutical intervention taken to prevent the spread

of a contagious disease by ensuring there is space between person to person.

Social distance became prominent in the 1920s in the American sociology. The prominence was because of the convergence of a need to understand the relationship among social groups, and because of the evolving scientific discipline and the large numbers of immigrants. In a study by Levine et al., (1975) Simmel alludes that social space is the ecological attachment and mobility, emotional involvement and detachment and the extent to which persons share similar qualities and sentiments. According to Ethington, (1997), the social distance concept originated from Georg Simmel who taught Robert Park and the man who, according to Philip, suggested the concept the "Bogardus Social Distance Scale". In 1925, Emory.S. Bogardus relayed a publication on a social distance scale he had devised for measuring and comparing attitudes towards national and racial groups and in his study, the reviews demonstrated clearly that distance has variety of sources beside the social aspect.

Banton & Banton, (1956) argues that social distance takes four forms and for the interest of this study, the form that has the greatest significance is social distance as an outcome of people's negative attitudes derived from unfavourable information about members of another group. This relates to this study through the perspective of the governments which require that people should avoid social gatherings that exceeds fifteen people as a way of avoiding being infected with Corona Virus. It also mandates the need to keep a social distance of at least one meter between two persons as a need to prevent the transmission of the disease from one person to another through contact.

The concept of social distance therefore is widely used in studies for gender, status, class, and ethnicity and is measured according to the Bogardus scale or from an improved version of the same. In his strangers manuscript, Koo et al., (2020) brings forth the argument that the stranger is a formal structuring of personality where desires and instincts among other contents gain their recognizable social shapes. Karalus, n.d. states that according to Simmel, distance is an intermediate state between the impossibility of enjoyment and a unifying, unmediated presence, and unrestrained availability of the source of desire. Therefore, in Simmel's view, forms are the stable outcomes of distances existing between subjects and objects.

Past studies have suggested reasons why social distance can be important in affecting interactions. For instance, Hipp & Perrin, (2009), argues that social distance can decrease the similarity in attitudes between two persons, secondly, it can decrease the chances of developing a shared group identity and lastly, it can lead to role differences as seen in social statuses. It also suggests that social distance has five key determinants, the economic class, life course position, cultural values and attitudes, gender, and racial/ethnic differences.

Theoretical studies by Fonseca, (2013), Date, (2009) and Hipp & Perrin, (2009) defines social distance as

the prominence of certain social characteristics that form an awareness of similarity with other characteristics as well as an awareness of difference with others not sharing the characteristics. According to Date, (2009), testing for the effects of social distance requires testing the extent to which households with children attract social ties with neighborhoods with a proportionate number of children. He also argues that one major limitation of the existing studies on social distance is their inability to consider the physical distance effect of social distance. This argument therefore supports the continuous insistence by the government towards limiting movement of the children and avoiding the intermingling of the children while at home. Doing so, will ensure that social ties between the children are broken and this will consequently promote the fight against spreading the virus.

From the studies highlighted, it's imperative to observe that social distance is an effective way of managing an uncontrollable contagious disease. Koo et al., (2020) observes that the implementation of school closure and workplace distancing can be considered a secondary control response where quarantine fails and there exists community transmissions. Considering this, the ministry of education is adamant in keeping the schools closed until the infection rate of the virus is flattened and especially because of the growing numbers of community transmissions. Additionally, since people tend to develop their own social classes and statuses which emanate from an economic class, the expected outcome from social distancing may yield negative results especially if the population decide on creating the social classes which will push them towards a specific direction or action that may affect the implementation of the guidelines issued by the government.

Bedford, (2018) highlights factors that influences compliance to physical distancing as economic factors, social structures and networks, and population density, among others. COVID-19 pandemic is breaking the social structures and networks amongst the population and as such, it is difficult to live as was the case before the outbreak. Furthermore, businesses survive because of socialization and if this is eliminated from a business environment, then the business loses its value which is what social distancing is doing to businesses today. Additionally, learning institutions are social places where learning is made effective by team and group performance, which can no longer be the case with social distancing mandate.

Efforts to reduce the spread of the virus through social distancing has prompted the indefinite closure of schools, colleges, universities, and other training institutes around the world. As of June 7th, over 170 countries had closed nationwide or local schools impacting over 98% of the student population. There exists a wide range of literature on the closure of learning institutions as a measure to reduce the spread of an infectious disease among persons. Beside closing the education institutions, some universities moved rapidly and transitioned various courses and programs from face-to-face tutoring to online mode of delivery.

As a checklist on safe school environment, the UNICEF has provided several measures to be observed which reduces the risk of transmission of Covid 19 UNICEF FIA and Child Health Initiative, (2020). For boarding schools and other specialized institutions, there is need to extend considerations to residential facilities, lecture halls, laboratories and other learning facilities OMS, (2020). This could therefore mean a need to either expand the facility layouts or distribute the number of learners to other rooms within the institution as a safety measure to be observed. Some options provided in a report by Benzian et al., (2020) include expanding timetables where some teachers and learners attend in the morning, others in the afternoon or evening. Staggering recess/breaks, establishing an order for entry and exit from a lecture hall among other measures.

Although the institutions heads may be working towards meeting the specifications as stipulated by the government and the world health organization, as social beings, people tend to break rules that limit their socialization even though, the pandemic is compelling them to maintain the social distance. Some higher education institutions have turned to the digital platform where they are offering online learning with virtual interactions which may offer partial solution but may not cater for all the needs that face-to-face interactions offers.

When the government of Kenya introduced the containment measures, it was expected that every person in a public place was required to maintain a physical social distance of not less than one meter from the next person. For the organizations, the government stated that the businesses premise was required to put in place measures that ensured physical distance rule was adhered to within their premises or business location. Additionally, any gathering was prohibited during the restriction period. Another thing that was introduced was the mandatory use of face masks while in public spaces and the health workers while attending to any patients.

B. Curfews and Lockdown on Learning in the Higher Learning Institutions

Dusk to dawn curfews and lockdowns were another non-pharmaceutical measure that the government introduced which continues to take effect from 10pm to 4am. The word curfew as explained by Lester, (1996) comes from an old French phrase "couvre-feu" meaning cover fire, which referred to a law introduced by William the conqueror as an alarm to ring the bell for putting out the fire before going to bed at 8Pm. In the Oxford dictionary curfew is defined as a regulation requiring people to remain indoors between specified hours. Among the intervention measures introduced by the government in the fight against the spread of COVID-19 was the dusk to dawn curfew in the entire country. The curfew was to start at seven in the night until five in the morning.

According to Brennan JM., (2020), due to the restrictions on social distancing and lockdown of towns in Wuhan city, there was an increased rate of closures of manufacturing firms in China which led to reduced

outbound capacity from China, yet the commodities prices increased. Additionally, due to increased public health requirements, there was an increase in additional border checks which resulted to serious delays. Kang et al., (2020).

Curfews were originally used in the United States of America in the 1980s to check the delinquency among juvenile immigrants and these were used to control juvenile behaviours. Curfew laws are based on deterrence theory, which argues that swift, certain and severe punishments make juveniles to consider the consequences of their actions and hence take part in less criminal activities as demonstrated by Sims & Preston, (2006).

In Malaysia, the government issued a movement control order from 18th March to fourteenth April. The total lockdown halted all production and consequently made it difficult accessing basic needs as well as sending money home to the dependents. A report by IMF stated that the US GDP was projected to decline by 5.9% while that of European countries is projected to decline by 7.5% of GDP, Additionally, as at fifteenth May, over 36 million laid off workers in U.S had already applied for unemployment benefits and according to OECD forecast, the greatest impact of the containment restrictions will be on retail and wholesale trade as well as in the professional and real estate services May, (2020)

While introducing the curfew in Kenya, the president through Kenya Gazette, (2020) notice said the order was to apply during the hours of darkness between seven o'clock to five o'clock in the morning effective 27th March, 2020. Kenya was not the first country to introduce this intervention measure having been introduced in China, East Asia and in the European countries. Audrey Azoulay, (2020b) notes that this curfew notice was meant to apply to all apart from those that were classified as essential services as an intervention measure to control the spread of COVID-19 and was valid until sixth April though it was prone to extension or termination. And as stated, the curfew still applies to date though the time has been adjusted from 9pm to 10pm from the initial order of 7pm.

For the higher learning institutions who have been offering learning after work with their main target being mature working adults who want to further their studies but with limited time during the day, then this non pharmaceutical measure was and still is a major challenge to them and as such they will be required to introduce other strategies and methods of teaching that will cater for these group of students without affecting the quality of the education offered. USIU for instance has shifted to online learning for its master's in business administration (MBA) course which was launched on December 2020(USIU, n.d.).

C. Quarantine and Isolation

In addition to the measures that have been introduced is the need to undertake quarantine as well as isolation of persons suspected to have acquired the virus as an intervention measure for controlling the spread of the disease. The word quarantine comes from an Italian word *quarantena* and

quaranta giorni used between fourteenth and fifteenth centuries meaning a forty day period when ships were obliged to wait in isolation before any person or good were allowed to go offshore Rothstein et al., (2003). This restriction was adopted as a means to separate persons, animals and or goods that were suspected to have been exposed to a contagious disease and since then, it has been used as an effective disease control strategy According to Tognotti, (2013), quarantine was first introduced in Dubrovnik in 1377 in Dalmatian coast as a non-pharmaceutical intervention whose main goal is to contain infection, delay the spread of disease, avert terror and death, and maintain the infrastructure of society.

III. METHODOLOGY

A descriptive research design was used for this study. Use of case study ensured each variable was considered and studied independently in data collection but correlated in the analysis.

The population for this research study was derived from employee data at the USIU-Africa staff register, the total number of staff including the faculty was 353 as at 2021. The target population constituted top-level managers, middle level managers, general staff, and the faculty. This research was collected from the various divisions within the university i.e., ICT, Finance, Academic and Student Affairs, Office of the Vice Chancellor, University advancement and Legal and Administration.

The study adopted Denscombe, (2014) sample size formula as a guide for calculating the sample size. To allow for both quantitative and qualitative data collection, closed-ended questionnaires was used to enhance the collection of numerical data, while for qualitative data, open ended questionnaires were used. The questionnaires were distributed to various departments through google docs and expected back within a week, to allow for quality time for the respondents to fill them in. The questionnaires used a Likert scale calibration where (1 rated the lowest for Not at all and 5 was the highest for very large extent).

Descriptive data was analysed using central tendencies measures such as the mean, median and the mode which were directly extracted from SPSS and inferential data was analysed using Pearson correlation and linear regression. Out of the 187-respondent targeted online, the study managed to reach 150 representing 80% response rate for the study.

IV. FINDINGS

A. Effects of Non-Pharmaceutical Intervention Measures

The study investigated on the various aspects of interventions on learning in the higher learning institutions. The findings in table 1 below showed that majority of the respondents agreed and strongly agreed that the pandemic has affected the way they related to other staff (42%), USIU-A has been observing the measures by WHO and the Kenyan government in the fight against COVID 19 (43%), non-pharmaceutical intervention measures have negatively

affected the economic condition of USIU-Africa (41%), USIU-Africa has transitioned to digital learning to ensure continuous learning (42%), COVID 19 is one factor that has led to layoffs in the institutions (41%), COVID 19 pandemic has significantly affected the university’s gradual recovery plan caused by reduced student full time equivalent (46%).

On the other hand, majority of the respondents (41%) disagreed and strongly disagreed that the institution is yet to return to physical learning of its students to date due to COVID 19, however 39% agreed and strongly agreed with the statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
COVID 19 pandemic has affected the way I relate to other staff within USIU-Africa	21%	17%	21%	22%	20%
USIU-A has been observing the measures by WHO and the Kenyan government in the fight against COVID 19	21%	15%	21%	23%	20%
Non-pharmaceutical intervention measures have negatively impacted the economic condition of USIU-Africa.	20%	21%	19%	19%	21%
USIU-A has transitioned to digital learning to ensure continuous learning	22%	20%	19%	17%	22%
USIU-A is yet to return to physical teaching of its students to date due to COVID 19	22%	17%	21%	30%	11%
COVID 19 is one factor that has led to layoffs in the institution	19%	22%	24%	18%	17%
COVID 19 pandemic has significantly affected the university’s gradual recovery plan caused by reduced student full time equivalent (FTE)	21%	25%	19%	19%	15%

Table 1: non-pharmaceutical intervention measures on learning

Extent of Effects of Non-Pharmaceutical Intervention Measures

The study investigated the various aspects of intervention measures and its impact to the learning institutions. The findings in table 2 below shows that majority of the respondents reported the intervention measures have negatively impacted the students enrolment compared to the pre-COVID 19 era to a great extent and a

very great extent (40%), lack of face to face learning has affected full time student enrolment in the institution (42%), evening learning has been affected by the introduced intervention measures (42%) and the 2021 staff layoffs at the institution can be associated to the COVID 19 measures introduced (46%).

	Very little extent	Little extent	Some extent	Great extent	Very great extent
To what extent has non-pharmaceutical intervention measures negatively impacted the students enrolment now compared to the period before Covid 19	23%	16%	22%	19%	21%
To what extent has lack of face-to-face learning affected full time student enrolment in USIU-Africa	19%	18%	21%	19%	23%
To what extent has evening learning been affected by the introduced non-pharmaceutical intervention measures.	19%	19%	20%	19%	23%
To what extent can you associate 2021 staff layoffs at USIU-A to Covid 19 intervention measures introduced.	19%	14%	21%	23%	23%

Table 2 : effects of non-pharmaceutical interventions on learning

Correlation Between non-pharmaceutical Intervention Measures and higher learning institutions

A Pearson correlation test was done to investigate if there is a significant relationship between Intervention Measures and higher learning institutions. The results presented in table 3below shows that there is no significant relationship between non-pharmaceutical Intervention

Measures and higher learning institutions($r=-0.010$, $p=0.907$). This is an indication that Government Intervention Measures do not have significant impact on higher learning institutions.

Correlations		Higher learning institutions	Government Intervention
Higher learning institutions	Pearson Correlation	1	-.010
	Sig. (2-tailed)		.907
	N	150	150
Non-Pharmaceutical	Pearson Correlation	-.010	1
	Sig. (2-tailed)	.907	
	N	150	150

Table 3: correlation between non pharmaceutical intervention measures and learning

V. DISCUSSIONS

The study revealed that COVID-19 control measures have had a large impact on direct contacts and therefore transmission but have also caused considerable economic and food insecurity. One of the control measures by the government was closure of all learning institutions and USIU Africa being one of them was equally affected. Reductions in R_0 are consistent with the comparatively low epidemic growth in Kenya and other sub-Saharan African countries that implemented similar, early control measures. However, negative, and inequitable impacts on economic and food security may mean control measures are not sustainable in the longer term. This is congruent with Kang, Choi, Kim, & Choi, (2020). USIU Africa being a learning institution that was impacted by the government directive on closure of all learning institutions experienced hard economic times following the reduced student enrolment. Closure of the hostels further reduced the revenue streams and deepening the financial crunch. These challenges confirmed that the control measures were not only saving the country from the rapid spread of the disease but also making the country vulnerable economically. The reduced economies further encouraged the citizens to focus on other priorities and education became a luxury for the few who could afford it during the pandemic period. This further resulted into reduced University revenues since not so many people considered schooling as a priority.

The study further revealed that institutional closures affect not only learners, instructors, and household, but have extensive societal and economic consequences. The cessation of movement for institutions brought about quite a few social and economic issues including but not limited to, food insecurity and homelessness, online learning, learner debt, health care and childcare challenges and internet connectivity. The effect was more severe for underprivileged children and their households, leading to disrupted learning, nutritional challenges, childcare challenges, and resultant financial cost implication to households who could not work. In reaction to institutional closures, various governments suggested the utilization of distance learning programs and open educational applications and platforms that institutions and instructors

can use to reach students distantly and limit the interruption of education.

The study confirms that the University Admissions were affected as most students and parents were impacted by the pandemic economically hence the numbers were lower than previous admissions before the pandemic struck. This is confirmed by Maliszewska, Mattoo, & Mensbrghe, (2020) who states that the COVID-19 is a global pandemic which affects a country's GDP and in turn affects the households economically. The university also experienced a lot of program deferrals arising from the household economic challenges. Further, the household were also experiencing psychological challenges and a number of students and parents failed to cope psychologically. This increased the numbers of deferrals and the ripple effect on the economic health of the University.

The study revealed that the University appreciates technology in dissemination of learning, and it has invested heavily on the digital learning platforms prior to the pandemic. This enabled its immediate transition to digital learning and remote working following the closure of all learning facilities. Faculty and staff rose to the challenge, going above and beyond what was expected, and students adjusted, sort of. It became clear that this pandemic was a disrupter and there was need for quick response for continuity. This is congruent with Hughes et al., (2006) who argues that technology can serve as a replacement and in this case, it altered the face-to-face learning to virtual interaction. The University embracing technology was well appreciated however, this also came with challenges. Students and faculty were to be trained on this for effectiveness and the resultant effect was that the little cash received was still to be used on faculty and staff development, a good investment but unplanned hence eating into the limited funds.

It is noted from the study that USIU-Africa, students were not so much affected by the transition to digital learning in that its students are old and mature to brave the rigour of online learning. They are also technologically savvy to navigate the digital platforms. The challenge is with the Universities themselves in terms of infrastructure. USIU students experienced convenience with the digital

learning as the university has put in structures to support learning beyond the traditional learning platforms. This is congruent with Greenhow et al., (2009) who states that the emergent technologies hold great promise and challenges for transforming education research and practice.

The university appreciates that it has elderly as part of its workforce and the fact that the risk increases for people in their 50s and increases in 60s, 70s, and 80s. People 85 years and older are the most likely to get very sick. Other factors can also make you more likely to get severely ill with COVID-19, such as having certain underlying medical conditions. The directive to have remote working worked to its advantage because the vulnerable group have been cushioned by the directive to have the faculty and staff work from home. This was attributed to the ability of all the employees embracing the remote working and the infrastructure that enabled the university to offer continuous learning.

This finding is aligned with WHO, (2020) which states that the disease has not only proven to be a health crisis but a human crisis as well hence lives must be protected. The working from home however posed a challenge especially to the older members of the university because training was necessary for its effectiveness. This therefore ate into the university constrained financial reserve despite being a good investment for the university.

VI. CONCLUSIONS

From the study, it is very important to note that the government non-pharmaceutical interventions to curb the spread of the COVID-19 pandemic had adverse effects on the university economically, socially, and technologically. This put a lot of constrain on the Institution causing it to regularize some of operation to keep afloat and remain in business. The social fabric of all the constituents was torn with the directive to have online learning and remote working. The loss of jobs following layoff caused lack of livelihoods to the affected employees amidst the government non-pharmaceutical interventions to curb the spread of the disease.

The study revealed that in as much as USIU Africa suffered the consequences of the non-pharmaceutical interventions, its ICT infrastructure enabled it to navigate the closure of schools and transit to digital learning with ease. However, a few of USIU-A employees were incapacitated and were sent on unpaid leave. This study therefore recommends capacity building for all and facilitation of the remote working for its employees.

VII. RECOMMENDATIONS

The direct focus for this study was USIU Africa and its employees. The results therefore were limited regarding generalizations and therefore are not a complete representation of the entire all private universities and other public universities and tertiary colleges in the Education sector considering the numerous complex issues that surround the disruption by covid -19 that have not been

addressed by the study. Additionally, research should be conducted to improve the current study and increase information and understanding on the impacts of Covid -19 on higher learning institutions.

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