**GASI | Global Awareness Society International**

# The Response of African Higher Education Institutions to the Covid-19 Pandemic: A Review and Recommendation for Resiliency

Edward O. Akoto, Ph.D. (Professor of Management)
Henderson State University, USA
akotoe@hsu.edu / eddakoto@gmail.com


Fofie Atta Konadu (MPhil/Ph.D. Candidate)
Akenten Appiah-Menka University of Skill Training & Entrepreneurial Development
Atkenzy@yahoo.com

**Abstract**
This paper examined the responses and resiliency of the African Higher Education Institutions (HEIs) to the COVID-19 pandemic. Using the resiliency framework by Mithani (2020), the outcome of the analysis shows that HEIs lacked internal capabilities and proactive response measures and strategies and that most institutions were reactive in their response to this institutional altering threat. Hence, among the recommended measures to ensure resiliency is for stakeholders to develop proactive measures that sustain quality and equality in educational delivery during environmental challenges.

**Keywords:** COVID-19, Pandemic, Resilience, Higher Educational Institutions (HEIs), Africa, Blended learning, Online Learning.


## Introduction

The COVID-19 pandemic accelerated the digitization of the global economy, hence the fourth industrial revolution (Amankwah-Amoah *et al.*, 2021). Higher Education Institutions (HEIs) were not exempted from the digital acceleration of organizational systems and processes and the resultant need for organizations to constantly change their practices (Benavides *et al.*, 2020). Therefore, HEIs over the world had to transition from the traditional mode of instruction which was predominately face-to-face, to a new mode including fully online and blended teaching and learning. While the transformation of the education system and delivery modes were somehow successful in the developed economies, with minimal interruptions in the academic calendars, the same cannot be said of HEIs in Africa. Academic systems and calendars were disrupted in many African countries. For instance, in Ghana, the 2021/2022 academic year had to be rescheduled,

and the start of the 2022/2023 academic year was changed from September/October to January. The disruptions may have exacerbated the educational inequalities between the developed and the developing world, as African students may have been delayed in their educational pursuits and transition to the job world.

The anecdotes provide some insight into the impact of the pandemic, but there hasn't been a critical review of the resilience of HEIs. Accordingly, various studies have examined the impact of COVID-19 but none on the resilience of African HEIs. This raises the question of the capacity and readiness of HEIs in Africa to respond to environmental challenges in this new dynamic environment known as VUCA—volatile, uncertain, complex, and ambiguous. Therefore, the goal of this paper is two-fold: The first is to provide a review of the responses and resilience of Africa HEIs to the global pandemic and their readiness for future environmental threats via the organizational adaptation framework by Mithani (2020). The second goal is to provide recommendations to enhance African HEIs resilience in this VUCA-laden educational world. This review will be guided by these two major questions: How did the higher education institutions in Africa adapt or respond to the global COVID-19 pandemic, and how can HEIs build resilience for future environmental challenges? HEIs resilience in this new world is critical to avoiding future disruptions in the education delivery system on the continent.

The paper is structured as follows. We briefly review the literature and framework of resiliency and African HEIs response to the COVID-19 global pandemic. Next, we report the results of our analysis, revealing how the HEIs deployed their internal capabilities and external resources to combat the global threat and the resilience pattern that emerges. Based on this, we offer recommendations for African HEIs to increase their readiness, hence, resilience to future environmental threats. This paper is unique in its contribution to the current knowledge of the impact of the pandemic with a specific focus on the resilience of HEIs in Africa.

## Organizational Adaptation and Resiliency

Environmental uncertainty due to economic and technological changes and the resultant organizational adaptation has been studied for years (Lewin, Weigelt, & Emery, 2004; Linnenluecke, & Griffiths, 2010; Vergne & Depereyre, 2016). But the

dynamic nature of the external environment and life-threatening events has led to a new realm of organizational adaptation research and the conceptualization of resiliency systems. "Resilience represents the multiple ways humans, organizations, and other systems respond to destabilizing disturbances to adapt to the challenges imposed by the environment" (Van Der Vegt et al., 2015, in Mithani, 2020, p513). Thus, resiliency is the ability to deploy internal capabilities or external resources to combat environmental threats (Mithani, 2020). For HEIs, it is the ability to deploy internal or external resources to maintain their functionality and the quality of programs and their delivery.

Mithani (2020) conceptualized the various approaches to adaptation as the modes of resilience to combat environmental threats. These modes include *avoidance*, *absorption*, *elasticity*, *learning*, and *rejuvenation*. HEIs can adopt these modes of response based on the level of the environmental threat.

*Avoidance* – This occurs when an institution circumvents threats that have a limited impact by deflecting the environmental shock; hence, the system is not harmed. It is imperative to be proactive, prepare, and make plans ahead to accommodate environmental threats. To avoid is to prepare ahead to mitigate the spillover effects of environmental shocks should they ever occur.

*Absorption* – The capacity of the institution to absorb the impact of a narrow threat without harm to the institution. The argument then becomes how well-prepared and ready are these institutions to contain and handle any environmental threat. It is by the internal capabilities that they can be fully resilient regardless of the challenges that might come their way.

*Elasticity* – The institution bounces back after a temporal disruption. Thus, after an environmental shock, a system promptly returns to its previous form and functionality, a state of equilibrium. To be resilient in this instance is the ability to turn things around shortly after an impact.

*Learning* – The significant impact of an environmental shock and system disruption requires some modification. This recognizes that resilience is only partly built into a system. Therefore, recovery requires the development of newer properties, including new processes and skill sets.

*Rejuvenation* – An extensive system-wide disruption that requires rebuilding. In this mode, resilience occurs much later, after a system has undergone complete desolation. This mode represents complete destruction of the current system and requires redevelopment of a new system.

These are the guide to HEIs on what, how, and when to respond to the various environmental challenges or threats.

**Assessment of African HEIs Capabilities for Resiliency**

To examine the resiliency of African HEIs to the global pandemic, we assess the institutions' internal capabilities and structures, and external resources since these are relevant to attaining resiliency, especially the internal capabilities.

***The internal capabilities of the HEIs pre-pandemic?***
The pre-pandemic internal capabilities of the institutions are relevant to their response to the global pandemic. Hence, we reviewed the technological resources and digital capabilities necessary for transitioning programs to online platforms.

1. *Technological capacity* – Lack of digital technology and limited connectivity of campuses (Rios-Campos et al., 2020), with legacy internet system (slow and unreliable). IMF statistics suggest that Africa lacks the world in internet penetration (IMF, 2020).
2. *Program Designs and Instructional Strategies* – Pre-pandemic instruction and contents were designed mainly for traditional face-to-face pedagogy. Only a few leading institutions had the capability for virtual instruction (Agyapong et al., 2020).
3. *Institutional platforms* (LMS) – The availability and use of digital LMS were limited to a few leading institutions on the continent (for instance, University of Ghana).
4. *Staff Skills and Training* – Academic and non-academic staff lack skills in emerging digital instructional technologies. There was a lack or inadequate preparation for online teaching.

***What external resources were available to HEIs during the pandemic?***

The following are some of the external resources that were at the disposal of the African HEIs from international agencies, regional associations, governments, and companies.

1. *Technical assistance on migrating to online learning -* The AAU offered assistance for transitioning to online teaching and learning through technical aid in the form of cloud services, VoIP, backup solutions, network monitoring, and security. Higher education staff members, including lecturers, students, and other employees, received further training on the use of online instruction. Although online teaching and learning might not be new, its complete utilization in place of face-to-face requires some orientation and training. Access to uninterrupted internet services, WIFI, and other broadband services was all improved as part of the technical resources available to accommodate online teaching and learning (UNESCO, 2020).

2. *Knowledge-sharing workshops, training, and webinars -* Several training sessions were provided to facilitate the migration to online teaching and learning. These included workshops, webinars, and conferences, where experts explained the modalities of online learning to both students and lecturers. Hence, a larger basis for knowledge exchange became available. This ultimately made it easier for some HEIs to adopt and disseminate technology for teaching and learning. Some institutions also provided training for staff in-house (Agyapong et al., 2020; World Bank, 2020).

3. *The AAU African response and Partnerships -* The AAU eLearnAfrica and WILEY Education Services partnership provided technological support to African Universities to expedite their migration of teaching and learning activities to online platforms (AAU). The AAU also offered a resource page to help higher education institutions plan for possible campus disruption by COVID-19 (AAU, n.d.; Agyapong et al.,2020).

4. *Educational Developed Portals -* UNESCO and the World Bank developed an educational portal that provided immediate technical support to countries and institutions. This helped institutions to minimize educational disruption and quickly prepare and deploy inclusive distant learning solutions, utilizing all forms of approaches (Agyapong et al., 2020; World Bank, 2020; UNESCO, n.d.).

5. *Partnerships with TELCOs -* Some HEIs formed partnerships with telecommunication companies to improve WIFI connectivity and access on campuses and data and laptop packages to students. This helped to improve access and reduce the inequality on these campuses. For instance, University of KwaZulu-Natal in South Africa and Ashesi University in Ghana (Aborode et al., 2020; Agyapong et al., 2020).

## The HEIs Response: Deploying the Capabilities and Resources

Below we present an assessment of the internal capabilities and the external resources using data from prior studies and varied public sources.

### *Higher education institutions' closures*

Data from multiple sources and studies show closures of HEIs during the pandemic (e.g., Babbar & Gupta, 2021), suggesting a significant environmental impact and low resilience capabilities of the institutions. The results are presented in Tables 1 to 3. The AAU Global Impact Survey on COVID-19 (table 1) reveals that 77% of African universities were closed compared to the rest of the world, but 40% were developing alternate solutions such as Learning Management System (LMS) platforms (African Union, 2020; Mohammed, 2020).

**Table 1**: Comparing Global School Closures

| HEIs | Percentage |
|---|---|
| Africa | 77% |
| Europe, Asia, and Americans | 55% |
| Other regions | 24% |
| Other HEIs in Africa (Developing Alternative Solutions) | 40% |
| Other Survey (respondents said their schools were closed) | 88% |

Source: Association of African Universities (AAU) Global Impact Survey

**Table 2**: A survey by Global Partners

| Region | Out-of-school tertiary Educational students | Total tertiary education students | Percentage |
|---|---|---|---|
| East Asia and the Pacific | 72,391,442 | 73,538,139 | 98% |
| Europe and Central Asia | 36,948,926 | 38,030,033 | 97% |
| Latin America and the Caribbean | 27,007,997 | 27,111,868 | 100% |
| The Middle East and North Africa | 14,282,666 | 14,282,666 | 100% |
| North America | 20,640,820 | 20,640,820 | 100% |
| South Asia | 40,468,782 | 40,468,782 | 100% |
| Sub-Sahara Africa | 8,399,127 | 8,533,188 | 98% |
| World | 220,139,760 | 222,605,496 | 99% |

Source: World Bank (2020)

The World Bank publication of the outcome of its global partners survey revealed that over 220 million post-secondary students –13 percent of the total number of students affected globally – have had their studies ended or significantly disrupted due to COVID-19 (World Bank, 2020). In the same vein, a UNESCO study (table 3) found that during the pandemic, the inability to access online education had an impact on at least 60% of the student population. Even though 96% of students said they had access to a computer and occasionally used it to access the internet, 85% had a weak internet connection or lack thereof which was a significant challenge to remote learning.

**Table 3**: Digital Comparison between Africa and other Regions

| HEIs | Percentage |
|---|---|
| Developing country populations used the internet | 47% |
| Developed country populations used online teaching and learning before Covid-19 | 87% |
| Students population affected by the Covid-19 pandemic | 60% |
| Students with access to a computer | 96% |
| Lack of access to or quality of internet connection | 85% |

Source: UNESCO (2020)

### Analyzing the response via the resilience framework

In Table 4, we summarize the response of the African HEIs in relation to the response or resilience modes. With the pandemic having a significant effect leading to closures, the institutions' responses were beyond the avoidance and absorption modes. The HEIs

responses can be located within the e*lasticity and learning* modes of resiliency. The analysis suggests that the response was reactive and moderate to slightly weak since the environmental threat had a significant temporal effect on teaching and learning. The institutions were mainly reactive to the threat but were able to bounce back after initial school closures with small to medium delays in the response. The complete shutdown of most institutions caused disruptions in the teaching and learning process as the internal capabilities were inadequate to mitigate the threat. However, with the external resources at their disposal, the institutions had the opportunity to transition programs and instruction to online and remote platforms. Nevertheless, most HEIs in Africa were comfortable with face-to-face teaching and learning, and migration to online was a difficult task due to a lack of readiness, as the data suggest. The inability to transition to digital or remote learning caused disruptions in the program delivery and the academic calendars.

**Table 4**: Application of Mode of Resilience to African HEIs Response

| | Modes | | | | |
|---|---|---|---|---|---|
| **Criteria** | **Avoidance** | **Absorption** | **Elasticity** | **Learning** | **Rejuvenation** |
| Threat response | Circumvent | Resist | ***Bounce Back*** | ***Modify*** | Rebuild |
| Response type | Proactive | Proactive | ***Proactive Or Reactive*** | ***Reactive*** | Reactive |
| Disruption | None | None | ***Temporal*** | ***Significant*** | Extensive |
| Response delay | None | None | ***Small*** | ***Medium*** | Large |
| Rate of recovery | N/A | N/A | ***Fast*** | ***Moderate*** | Slow |
| Resource demands | None | None | ***Few*** | ***Moderate*** | High |
| Strength of response | Very Strong | Strong | ***Moderate*** | ***Slightly Weak*** | Weak |

Adapted from Mithani (2020).

## Recommendations for Ensuring Resiliency and Sustainability of HEIs In Africa

The global pandemic unleashed an ongoing disruption that has shaken every facet of the HE systems across the continent and the resiliency of the institutions. In what follows, we provide guidelines necessary to ensure the resiliency of the HE systems and to maintain the quality in future environmental challenges. African HEIs should adopt the avoidance and absorption modes of resiliency that will allow them to circumvent or

resit future environmental threats. This can be achieved by building proactive systems and capabilities targeted at three key stakeholders of HE: government or institutions, instructors, and students.

### *Governments and institutions*

The VUCA world demands flexibility and readiness for change. Governments and HEI must accept this new reality and be ready for change. Environmental challenges are unavoidable, and various interventions must be put in place to lessen future impacts. Investments in technological infrastructure and innovation are crucial for HEIs in Africa. Governments and educational institutions must fund the expansion and enhance technological access. While Governments are responsible for enhancing the digital infrastructure in their countries to increase access, institutional heads are responsible for enhancing the network infrastructure on their campuses. A policy framework could be adopted to encourage the development, research, and adaption of advanced educational technologies as African Governments attempt to digitize their economies. These are summarized as follows:

1. *Innovation in advanced technological/broadband infrastructure by Governments.*

   - Expansion in broadband and fiber optics technology by Governments (reduce latency). Provide access to communities with limited or no broadband access.
   - Increase access to digital educational technology by all institutions to reduce inequality in institutional technological capacities.

2. *Online infrastructure and program innovations by institutions.*

   - Require all programs to be produced or managed at least partially on digital LMS to prepare programs for transitional readiness to online mode.
   - Adaption of hybrid and remote pedagogies and the incorporation of digital technology to increase transitional readiness, hence, resiliency.
   - Develop policies or guidelines to assure the quality of instruction and the assessment of learning in online and remote settings.

3. *Enhancing human capital to augment technological innovations.*

- Acquire instructional designers to provide instructional design and technology support.
- Provision of other support services to instructors including training in digital instructional devices.

4. *Develop external networks to take advantage of emerging digital technologies.*

- Institutions must network with regional, continental, and international higher education agencies, e.g., AAU, ESSA, IUCEA, the World Bank, and UNESCO for knowledge sharing on nascent instructional technologies.

### Faculty/Instructors

The HE system, with its knowledge-based workers, is among the most change-resistant institutions. With the reality of the VUCA-laden and dynamic world, faculty must be primed for change. The first is for faculty/instructors to acknowledge that environmental challenges are unavoidable, and that technological development is essential to effective functioning during these challenges. The role of the faulty in this process is summarized as:

1. *Accept uncertainty and be willing to adapt content and pedagogical strategies and mode of instruction:*

- To cultivate resilience, they must prepare the 'soil' by accepting that unpredictability is a natural part of life today. This means developing academic plans that are robust (Higgins, 2021).
- To take advantage of the training opportunities in online course delivery, e.g., from AAU, AU, IAU, etc., to develop good quality digital educational content.

2. Take advantage of the opportunity to adapt to the changes in the education sector and develop relevant online course capabilities:

- Increase knowledge of online educational technologies and materials and expand their technology and pedagogical capabilities
- Build blended learning capacity course by course.
- Develop ideas for hybrid and online classroom interactions for students' engagement.

- Exercise patience and empathy with students and lead them through change.

### *Students*

Just like all stakeholders, students are not exempt from the challenges of the volatile world and the need to be flexible and adaptive. Students are not strangers to learning; hence, developing a mindset of lifelong learning and agility will serve them well in this new environment. These should empower students to handle potential issues that may arise in the future while preparing them to take control of technology drives.

- Accept uncertainty and be willing to adjust to the various modes of instruction.
- Must embrace online or remote education as a viable mode of education and accept online degrees.
- Skills and competencies built in the digital space must be to the education sector to enhance their learning.

In conclusion, though the recommended steps are not exhaustive, if undertaken, these are likely to help build the institutions' internal capability, which is foundational to any resilient system. According to Mithani (2020), a resilient system is capable of combating environmental threats through internal characteristics and capabilities. It remains to be seen if African HEIs will embrace this necessary change.

### References

Aborode, A., Anifowoshe, O., Ayodele, T. I., Iretiayo, A. R., & David, O. O. (2020). Impact of COVID-19 on Education in Sub-Saharan Africa.

Africa Union (2020). Communiqué of the Bureau of the African Union (AU) Executive Council Teleconference Meeting held on Thursday, 9 April 2020.

Agyapong S, Asare S, Essah P, Heady L, Munday G. (2020). Learning in Crisis: COVID-19 pandemic response and lessons for students, faculty, and Vice Chancellors in sub-Saharan Africa. *Education sub-Saharan Africa* (ESSA).

Amankwah-Amoah, J., Khan, Z., Wood, G. and Knight, G. (2021). COVID-19 and digitalization: The great acceleration. *Journal of Business Research*, 136, 602-611.

Association of African University (AAU, n.d.). Covid-19. Accessed on 4/15/22 at: https://aau.org/covid-19/

Babbar & Gupta (2021). Response of educational institutions to COVID-19 pandemic: An inter-

country comparison. *Policy Futures in Education* 0(0) 1-23

Benavides, L.M.C., Tamayo Arias, J.A., Arango Serna, M.D., Branch Bedoya, J.W. and Burgos, D. (2020). Digital transformation in higher education institutions: A systematic literature review. *Sensors, Multidisciplinary Digital Publishing Institute*, 20 (11), 3291.

IMF (2020). Digitalizing Sub-Saharan Africa: Hopes and Hurdls. Accessed on 8/12/22 at: https://www.imf.org/en/News/Articles/2020/06/15/na061520-digitalizing-sub-saharan-africa-hopes-and-hurdles

Lewin, A. Y., Weigelt, C. B., & Emery, J. D. (2004). Adaptation and selection in strategy and change. In M. S. Poole & A. H. V. de Ven (Eds.), Handbook of organizational change and innovation (pp. 108-160). Oxford, UK: Oxford University Press.

Linnenluecke, M., & Griffiths, A. (2010). Beyond adaptation: Resilience for business in light of climate change and weather extremes. *Business and Society*, 49(3), 477-511.

Mithani, M. A. (2020). Adaptation In the Face of the New Normal. *Academy of Management Perspectives*, 34 (4), 508-530.

Mohammed, W. F. (2020). What COVID-19 reveals about educational inequality in Africa. *Al Jazeera*.

Rios-Campos et al., (2020). African Universities: Problems, COVID-19 & Efforts. *South Florida Journal of Development*, 2 (2), 1266-1276.

World Bank (2020). Remote Learning, EdTech & COVID-19. Accessed on 8/15/21 at https://www.worldbank.org/en/topic/edutech/brief/edtech-covid-19

UNESCO (2020). School closures caused by Coronavirus (Covid-19).

UNESO (n.d.). COVID 19: Distance learning solutions. Accessed on 4/15/22 https://en.unesco.org/covid19/educationresponse/solutions

Van Der Vegt, G. S., Essens, P., Wahlstr¨om, M., & George, G. (2015). Managing risk and resilience. *Academy of Management Journal*, 58(4), 971-980.

Vergne, J.-P., & Depeyre, C. (2016). How do firms adapt? A fuzzy-set analysis of the role of cognition and capabilities in US defense firms' responses to 9/11. *Academy of Management Journal*, 59(5), 1653-1680.