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COMMENTARY

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# Coronavirus in the era of digital connectivity: Opportunities and challenges

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In this article, we examine the opportunities and challenges digital connectedness creates in the fight against epidemics, in particular the coronavirus (COVID-19). We deduce that digital connectedness of individuals and organizations eased sharing of information on the causes and measures aimed at controlling and avoid the rapid spread of the epidemic in developing economies of Africa. We conclude that digital connectedness enabled African countries to access; share and implement globally suggested mechanisms aimed at controlling the spread of the COVID-19 epidemic. Future, studies should examine how African economies use digital connectedness to increase individual and organizational participation in curbing epidemics and also boost health management.

## 1 | INTRODUCTION

The severe acute respiratory syndrome (SARS); a viral respiratory disease outbreak in Southern China (between November 2002 and July 2003); resulted in over 8,000 reported cases and over 700 deaths in 17 countries (World Health Organization [WHO], 2003). However, today's era of technological advancement creates different opportunities and challenges on how countries respond to health epidemics such as the coronavirus formerly known as 2019-nCoV (Dodds & Zolfagharifard, 2020; World Health Organization [WHO/2019-nCoV/IPC/v20202.2], 2020). The World Health Organization officially named the coronavirus as COVID-19 (Aljazeera, 2020). COVID-19 is currently estimated to have registered over 50,000 cases in over 24 countries and resulted in over 1,381 deaths (ICA, 2020).

In developing economies (Kasadha, 2018, 2020), digital connectivity has increased community mobilization in response to their involvement in political related activities such as elections. The use of technology has further reinvigorated health campaign awareness and enabled sharing of health related messages through different interactive technology friendly platforms. Contrary to the 1980s digital virus wars in which IBM scientists worked toward creating solutions to next generation defenses against computer bugs:

> "In December of 1987 an electronic message named 'CHRISTMA EXEC' arrived at IBM's flagship Thomas J. Watson Research Laboratory, in Yorktown Heights, New York. Steve R. White, a theoretical physicist, was working on an unrelated computer-security problem when the communiqué first unfolded on a colleague's screen, slowly tapping out keyboard characters in the shape of a pine tree and then signing off with the salutation 'Merry Christmas'" (Robert, 1999).

Today's digital connectivity evidences numerous opportunities and challenges in the fight against epidemics such as the COVID-19 outbreak in Wuhan, the capital of China's Hubei province. Globally, both developed and developing economies are digitally engaging its communities on measures aimed at curbing the coronavirus epidemic.

According to Bennett and Segerberg (2012), digital connection resulted in individuals and organizations to easily frame and share messages. Shared and framed messages increase citizens' awareness and participation in initiatives aimed at curbing the COVID-19 epidemic. Whereas the COVID-19 global scare resulted in different countries to quarantine its flown back citizens (Denise, 2020), the world's increased access to technology evidence numerous

  

opportunities and challenges for developed and developing economies experience in moments of epidemic outbreaks.

## 2 | OPPORTUNITIES

Globally, increased digital connectivity in both developed and developing economies enabled the World Health Organization to digitally share its interim guidance on the COVID-19 infection prevention and needed health care when the novel coronavirus infection was suspected (World Health Organization [WHO/2019-nCoV/IPC/v20202.2], 2020).

For instance, in the developed economy of Hong Kong; increased digital connectivity is credited for the region's ability to implement measures aimed at curbing the COVID-19 outbreak. Since the SARS outbreak in 2002, the COVID-19 epidemic found Hong Kong more digitally connected than it was in 2002. According to the Hong Kong Special Administrative Region Census and Statistics Department report (2017), smartphone penetration rate increased from 54.0% in 2012 to 85.8% in 2016; and its internet usage from 30.3% in 2000 to 87.5% in 2016, respectively.

In the developing economies of Africa, registered digital connectivity in its sectors (International Telecommunication Union [ITU], 2012); resulted in effective and rapid respond to the virus outbreaks that are a threat to both human and animal life globally. Other than the COVID-19 which has not yet been reported in Africa, the continent has often engaged its communities in the fight against other epidemics such as swine fever and Ebola viruses. For instance, the "African swine fever (ASF) a viral hemorrhagic disease, caused by a large double-stranded DNA virus with an icosahedral symmetry, many African nations reacted to it during its infancy level. Since its first description in Kenya, the disease was reported in various countries around the world such as China, but remaining endemic in Sardinia, East Africa, and Southern Africa, where it represents a major threat for development of the pig industry" (Kalenzi, Ochwo, Afayoa, Norbert, Kokas, Arinaitwe, et al., 2013; Montgomery, 1921; Mwiine, Nkamwesiga, Ndekezi, & Sylvester, 2019; Rowlands, Michaud, Heath, Hutchings, Oura, Vosloo, et al., 2008; Sánchez-Cordón, Montoya, Reis, & Dixon, 2018).

We further, connote that digital connectivity has enabled China to meet its social responsibility (Bowd, Bowd, & Harris, 2006), to affected communities based on experienced changing societal expectations. In the ongoing, global efforts to curb the spread of COVID-19, different cities in China have been locked down. However, through digitally connectedness, the different affected cities, individuals and different businesses increasingly connect digitally connect and access required basic necessities such as food to curb hunger outbreaks (Chris & Steven, 2020) supported by technological means.

## 3 | CHALLENGES

Unlike the developed economies such as Australia that managed to recreate coronavirus outside of China (BBC, 2020), digital connectedness in developing economies of Africa remains a costly sector to invest in. However, as a result of digital connectedness different organizations such as the Bill & Melinda Gates Foundation are investing in both developed and developing economies to ensure the world is prepared to fight against epidemics such as the COVID-19.

The increased policing of how citizens in developing economies use available technologies pose greater threats to Africa's preparedness in disseminating relevant information. For instance, in Benin, Zambia, and Uganda citizens are taxed to access the different social media platforms (Kasadha, Alli, Basuuta, & Mpoza, 2020). Whereas in Burundi, the Gambia, Zimbabwe, and the Democratic Republic of Congo (Kasadha, 2020) digital connectedness is viewed as a security threat to incumbent governments (Searcey & Essomba, 2017). There is need for developing economies, in particular Africa to embrace the opportunities technology use creates in fostering fast responses to shared information on epidemic outbreaks.

## 4 | CONCLUSION

COVID-19 pose greater challenges to developing countries. In particular, the imposed restrictions in the use and access to digital platforms such as the different social media networks disconnects citizens from the different organizations sharing related information that is vital in prevention and treatment of epidemics. However, with continued funding aimed at boosting research both in Africa and China will increase the levels of sharing different forms of ideas, knowledge that is vital in the prevention of the spread of epidemics such as the COVID-19. For instance, the Bill & Melinda Gates Foundation commitment of "$10 million in emergency funds and corresponding technical support to help frontline responders in China and Africa accelerate efforts to contain the global spread of 2019-nCoV" (Bill & Melinda Gates Foundation, 2020).

Conclusively, digital platforms have created effective health warnings to reduce the spread of the COVID-19 and fostered coordinated messaging globally.


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