Promoting African digital multinationals for a more inclusive post-pandemic future

Kevin I. N. Ibeh*

This paper advances policies for promoting the intraregional and international investment prospects of African digital multinationals in the post-pandemic era. Based on the building blocks of organizational capabilities, funding access, digital infrastructure and regulation, it advocates for a more globally inclusive investment landscape in which African-born digital multinationals would no longer be a rarity. Against the backdrop of the COVID-19 crisis and its amplification of humankind's shared and digital future, policymakers and influential stakeholders at all levels are challenged to intensify the push for a more inclusive global digital economy.

Keywords: Africa, COVID-19, digital business, post-pandemic, technology-enabled activities

1. Introduction

Although the Coronavirus pandemic, and its human and material costs, is still underway, history suggests that it will inevitably pass. Indications regarding the shape of the future global economy can be gleaned from the handful of sectors that thrived amid the pandemic. These include innovative technology and digital businesses offering connecting products and services as well as online retailers and service providers and their supply chain and logistics partners. These businesses, not surprisingly, are excelling in major global stock markets, and they and other innovation platforms such as robotics, energy storage, artificial intelligence, blockchain technology and DNA sequencing (Gurdus, 2020) are likely to sustain their strong investment prospects in the post-pandemic global economy.

Of particular interest to the present perspective paper is the extent to which the expected boost in global digital investment might foster digital inclusion, access and entrepreneurship in underrepresented parts of the world, specifically Africa. Although internet penetration levels and online marketplaces have expanded across Africa in recent years (Lattimore, 2015), significant gaps still exist compared

* Kevin I. N. Ibeh (k.ibeh@bbk.ac.uk), is at the Department of Management, Birkbeck, University of London, London.

with other regions. For example, the International Telecommunication Union (ITU) recently found that internet access, especially fixed broadband, is still out of reach for many Africans (Mugisha, 2020a). The World Bank reported digital skills adoption across sub-Saharan Africa to be half the global average (Madden and Kanos, 2020). The virtual absence of African businesses in every major list of global digital brands is additionally instructive; one supposed exception, an e-commerce player traded on the New York Stock Exchange, seems beset with declining fortunes and claims of appropriating African identity (BBC, 2020).

Redressing Africa's peripheral role in the global digital economy has become even more urgent for a number of reasons. One, the COVID-19 crisis has strongly illustrated the continent's need for digitalization and rapid digital transition (Kasraoui, 2020), while also exposing appreciable gaps in provision and access (Madden and Kanos, 2020). Two, the prevalence of African digital companies and multinationals is likely to improve the region's prospects of meeting the United Nations Sustainable Development Goal (number 9) of fostering innovation, building resilient infrastructure, and promoting inclusive and sustainable industrialization. This inclusivity theme resonates with the rising global focus on promoting equality by channelling investments and opportunity levers to less represented populations, an agenda that the United Nations Conference on Trade and Development (UNCTAD, 2020) promotes by enabling several developing economies to use its e-government platforms to sustain operations amid the pandemic.

The present article discusses policy ideas for strengthening the international presence of African digital multinationals in the post-pandemic global economy. Multinationals are focused upon because they offer Africa's best prospects for future global competitiveness. This is particularly true, given the relatively small market size of all but a handful of African economies. Space restrictions preclude a substantive effort at theoretical positioning, but it must be noted that insights from the organizational capabilities (Teece et al., 1997) and institution-based theories (Mayer and Peng, 2005) underpin the policy ideas presented.

The remainder of this paper briefly profiles African digital multinationals, offers policy recommendations for advancing their international investment prospects and reflects on how the latter might contribute to a more inclusive global economy in the post-pandemic era.

2. African digital multinationals

The term "digital multinationals" is used here to describe enterprises whose business model is based on digital technologies and that own and manage value-creating activities in two or more markets outside their home country. Digital multinationals are an integral part of the digital economy and are commonly found in the information and communication technology (ICT) sector, among firms undertaking internet/ mobile technology-enabled activities and those whose activities underpin internet operations (UNCTAD, 2017; Ibeh and Lloyd-Reason, 2017).

African digital multinationals and other digital sector organizations, despite the infrastructural and capacity constraints noted earlier, have been crucial to serving the diverse needs of organizations and individuals across the continent since the COVID-19 crisis began. These multinationals, typically larger firms, have also dominated the many private sector coalitions and initiatives established in several African countries to combat COVID-19. Such initiatives have equally attracted the support of Africa's development partners as suggested, for instance, by the earlier mention of UNCTAD's making its e-government platforms available for the use of several developing economies.

A sample of digital multinationals from several African countries appears in table 1, essentially to offer an indicative view of the prevalence and profile of African digital multinationals and some context for subsequent policy reflections on their support needs.

Table 1. A sample of African digital multinationals

Company name	Indicative digital provision	Markets where present
Access Bank (Nigeria)	Digital financial services	9 countries: 8 in Africa plus the United Kingdom
Attijariwafa Bank (Morocco)	Digital financial services	25 countries, mainly in Africa, the Middle East and Europe
Banque Populaire (BCP)(Morocco)	Digital financial services	24 countries, mainly in Africa; 8 in Europe, the United Arab Emirates and Canada
BGFI Bank (Gabon)	Digital financial services	10 countries: 9 in Africa plus France
BMCE (Morocco)	Digital financial services	28 countries: 18 in Africa, 7 in Europe, Canada, the United Arab Emirates and China
Ecobank (Togo)	Digital financial services	33 African countries, plus France, the United Kingdom, China and the United Arab Emirates
First Bank (Nigeria)	Digital financial services	10 countries: 6 in West Africa, plus the Democratic Republic of the Congo, the United Kingdom, France and China
First Rand (South Africa)	Digital financial services	13 countries: 10 in Africa, plus the United Kingdom, Guernsey and India
Globalcom (Nigeria)	Digital communications services	3 West African countries
GTB (Nigeria)	Digital financial services	11 countries: 10 in Africa plus the United Kingdom

Table 1. A sample of African digital multinationals (Concluded)

Company name	Indicative digital provision	Markets where present
KCB (Kenya)	Digital financial services	9 countries: 8 in Africa plus the United Kingdom
Massmart-Game (South Africa)	Digital financial services	25 countries, mainly in Africa, the Middle East and Europe
MTN (South Africa)	Digital financial services	24 countries, mainly in Africa; 8 in Europe, the United Arab Emirates and Canada
Naspers Group – Takealot, Prosus, Media24 (South Africa)	Digital financial services	10 countries: 9 in Africa plus France
NSIA (Côte d'Ivoire)	Digital financial services	33 African countries, plus France, the United Kingdom, China and the United Arab Emirates
Safaricom (Kenya)	Digital financial services	10 countries: 6 in West Africa, plus the Democratic Republic of the Congo, the United Kingdom, France and China
Shoprite (South Africa)	Digital financial services	13 countries: 10 in Africa, plus the United Kingdom, Guernsey and India
Standard Bank (South Africa)	Digital communications, services	3 West African countries
Telkom (South Africa)	Digital financial services	11 countries: 10 in Africa plus the United Kingdom
UBA (Nigeria)	Digital financial services	23 countries: 20 in Africa, plus the United States, the United Kingdom and France
Woolworths (South Africa)	Online retailing, financial services	14 countries: 12 in Africa, plus Australia and New Zealand
Zenith Bank (Nigeria)	Digital financial services	7 countries: 5 in Africa, plus China and the United Kingdom
	Younger digital multinationals	
Nadia (Kenya)	E-health	4 African countries
Rightcom Technologies (Benin)	Digital (CEM) consulting	18 countries, mainly in Africa, Europe and the Middle East
Wallets Africa (Nigeria)	Fintech	3 African countries

Source: Adapted from various sources.

Box 1. Young digital multinationals from Africa

Rightcom Technologies, founded in 2012 by Benin Republic's Adetoye Aguessy, reportedly uses advanced tools, including artificial intelligence, to offer leading-edge customer experience consulting to clients in different industries, primarily across Africa, but also in Europe and the Middle East (RightCom, 2020).

Nairobi-based provider of non-urgent telemedicine care Nadia, one of the 180 African e-health start-ups featured in the latest report by Disrupt Africa, was established in early 2019 by four classmates at Meltwater Entrepreneurial School of Technology (MEST), in Accra. Its proprietary health companion app offers users in Kenya, Nigeria, Ghana and Tanzania real-time consultations with doctors. Nadia has reportedly experienced a surge in demand since the COVID-19 crisis (Jackson, 2020e).

As table 1 shows, African digital multinationals have an investment presence across the continent and beyond. They deploy digital technologies mainly to offer financial, communication and retailing services. Digital financial service providers account for most of the multinationals profiled. Online retailers and digital communication service providers make up the next sizeable cohorts.

MTN, in the midst of the COVID-19 crisis, reportedly entered the digital financial service space with a mobile money product (Reuters, 2020), thus offering a substitute to Africa's most famous mobile payment platform, M-Pesa, now jointly and equally owned by Safaricom and Vodacom (Business Daily, 2020).

Table 1 also presents African digital multinationals in other sectors, including e-health, online higher education and digital consulting, all of which have been boosted by the COVID-19 shelter-in-place policies. Honoris United Universities, an African online education group with a presence in Mauritius, Morocco, South Africa, Tunisia, Zambia and Zimbabwe, recently expanded into Nigeria by acquiring the Nile University, Abuja (Ukpe, 2020). Digital consulting specialist Rightcom Technologies and telemedicine start-up Nadia also exemplify the entrepreneurial drive and international investment push of African digital businesses (see box 1).

It should be noted, however, that the digital multinationals profiled here seem less engaged in the production of digital technologies and digital infrastructure. South Africa's Naspers Group, a major investor in technology companies Tencent (China) and Swiggy (India), appears to be among the few exceptions (Naspers Group, 2020).

The increasing flow of new entrepreneurial actors into the African digital sector, even amid the COVID-19 crisis, augurs well for the more inclusive digital future that this paper advocates. The potential of these enterprises underlines the need to actively support such budding digital multinationals with effective policy measures.

3. Policy ideas for supporting African digital multinationals

The fresh, COVID-19-driven, impetus to advance the participation of African digital businesses in the expanding global digital economy demands policy innovations, but not unnecessary reinventing the wheel. This section, thus, starts with an appeal for policymakers and development partners to judiciously adapt support programmes with demonstrated effectiveness in other world regions. For instance, there is widespread support for the digital ecosystem approach to assistance provision, i.e. focusing on mutually supporting stakeholders such as dedicated research teams in selected higher-education institutions, major corporate innovation players, high-growth digital start-ups, technology incubators and accelerators, organized private sector bodies, financial institutions and development promoting organizations (Giudici and Blackburn, 2013). The adoption of this approach is strongly urged, particularly as it aligns with the more inclusive post-pandemic future canvassed for by this paper.

Four policy building blocks are discussed around which support measures are articulated, specifically, organizational capabilities, financing and scaling, digital infrastructure and regulatory environment.

3.1 Capabilities upgrading initiatives

Given evidence on the effects of organizational capabilities on performance (Teece et al., 1997), the importance of frontier knowledge for competing in digital industries (OECD, 2016) and Africa's earlier-noted shortcomings in digital skills compared with other regions, support programmes to facilitate the upgrading of in-house and relational capabilities among African digital multinationals require priority attention. Sample suggested measures include establishing knowledge sharing and mentoring circles to facilitate successful adoption of complex digital technologies, championing technology accelerators and instigating collaborations within the digital ecosystem (Ibeh and Lloyd-Reason, 2017). More specifically, policymakers are urged to instigate a version of the Small Business Technology Coalition that has been employed to good effect by the United States Small Business Administration, Amazon, Facebook, Microsoft and others to advance technological capabilities among smaller United States enterprises. Such collaborative platforms could

Box 2. Upgrading the capabilities of African digital multinationals

The fifth cohort of the Google for Start-ups Accelerator Africa programme, comprising 20 tech start-ups, commenced virtually on 29 June 2020. This three-month programme aims to connect participants with Google's technologies, people, networks and methodologies in order to help them scale. Forty-eight African start-ups have already passed through the programme since its debut in March 2018 (Jackson, 2020b).

produce in African digital enterprises stronger capabilities to innovate in the opportunity spaces generated by the COVID-19 pandemic in national, intraregional and extraregional markets.

Encouragingly, some potentially significant initiatives are increasingly being observed across Africa. One example is the ongoing collaboration between the United Nations Economic Commission for Africa (UNECA) and the Rwandan National Institute of Statistics (NISR) to set up a Big Data regional hub for Africa in Kigali. The hub, similar to three others in China, Brazil and the United Arab Emirates, is expected to spearhead the development of new capabilities in the use of Big Data and modern technology and to foster international collaboration on the sharing of data and expertise (Mugashi, 2020b). Another example is UNCTAD's eTrade for All initiative, launched in 2016, which provides a seven-step programme geared to steer e-commerce towards development. Its approach is holistic and in addition to capacity-building elements, the initiative encompasses funding, infrastructure and regulatory components. Influential accelerator programmes are also emerging. Examples include the Naspers Group's Foundry, reportedly aimed at assisting South African entrepreneurs to build great tech businesses, and the Google for Start-ups Accelerator Africa programme (see box 2).

3.2 Financing and scaling initiatives

Although financing barriers, particularly scale-up financing barriers, have always challenged growth-seeking digital start-ups and multinationals, the dampening effects of the COVID-19 pandemic on African economies and businesses have significantly exacerbated the situation. Nevertheless, financing schemes, mainly external ones, regularly emerge, and this requires African policymakers to continually monitor and extend their awareness of pertinent funding opportunities for African digital enterprises. The World Bank's Financial and Digital Inclusion Development Policy Financing Project focused on promoting digital transformation, and access for businesses and individuals is arguably one such example. Other options

Box 3. Sample scale-up funding

A US$275 million higher education platform for Africa set up by the private equity firm Actis in 2017 is enabling the expansion of an African education group, Honoris United Universities Initiative, into several African countries. The group, which recently acquired the Nile University in Nigeria, had previously invested in private universities in Morocco, Tunisia, Mauritius, South Africa, Zambia and Zimbabwe (Ukpe, 2020).

The Egyptian digital health care start-up Vezeeta, which serves Middle Eastern and African markets, reportedly raised US$40 million in a funding round led by Gulf Capital, a major Middle East-based alternative asset management firm, in July 2020. The company, founded in 2012, currently operates in Egypt, Saudi Arabia, Jordan and Lebanon and had secured funding from other major investors, including Saudi Technology Ventures (Nzekwe, 2020).

Nigerian B2B e-commerce start-up TradeDepot recently raised US$10 million in equity funding from Partech, the International Finance Corporation (IFC), Women Entrepreneurs Finance Initiative and MSA Capital. This is to support expansion into other African cities and launch a suite of financial products and credit facilities for its retailers. The e-commerce platform, described by the IFC's Head of Africa Venture Capital Investment as a "rising star" in the African internet landscape, has built a significant network of retailers, global distributors and manufacturers since its establishment in 2016 (Jackson, 2020i).

are support measures that expand funding opportunities through collaboration with credible private providers, promote and guide digital firms' involvement in crowdfunding, and foster digital-ecosystem-type scale-up initiatives like the United Kingdom's Digital Catapult (Ibeh and Lloyd-Reason, 2017).

More specifically, the African Development Bank could consider taking a cue from the European Investment Bank by establishing an African Technology Facility and African Investment Fund start-up facility, to channel early investment into innovative, high-growth African digital start-ups. Similarly, the African Union could develop its version of the European Union's Horizon 2020 programme to foster collaboration on cutting-edge research in digital technologies among industry innovation leaders, start-ups and research-intensive higher-education institutions.

Since the COVID-19 crisis began, reports have been emerging of a growing list of African digital B2B start-ups, including Nigeria's Kobo360 and Kenya's Lori Systems, that are attracting significant investments to fund their expansion across the continent (Nzekwe, 2020). The World Bank is similarly reported to have approved significant funding to boost digital inclusion in a number of African countries, including Morocco (Kasraoui, 2020) and Niger (Barton, 2020e). The foregoing and the additional examples presented in box 3 represent good steps forward that need to be amplified and sustained in order to significantly redress the financing barriers facing African digital multinationals.

However, note must be taken of anecdotal evidence that American venture capital and equity investors in Africa preponderantly favour start-ups led or fronted by white foreign founders, leaving black African entrepreneurs struggling to raise financing (Madowo, 2020b). This report, which resonates with the broader global conversation on systemic bias and racial injustice, further justifies the call for a more inclusive global investment landscape. Increased attention must be paid to reports such as the above, not to judge, condemn or vilify, but to educate and encourage stakeholders to collaboratively develop positive steps and targets for redressing inequities in access to investment funding.

3.3 Digital infrastructure provision initiatives

The COVID-19 pandemic has weakened public and private sector capacity to redress Africa's widely recognized infrastructure gaps – recently estimated at between US$130 billion and US$170 billion annually by the African Development Bank (Bishop, 2020). Yet the heightened reliance on digital channels and the connectivity and access problems reported since the start of the crisis have underscored the scale and urgency of the challenge.

Intensified policy attention is thus required so as to promote sustained investments in areas such as provision of high-speed broadband and energy to enable African digital enterprises to more fully capitalize on the innovation opportunities associated with cloud computing, data analytics, machine learning, artificial intelligence and other advanced tools. Support measures should also actively facilitate private sector and wider stakeholder participation in the delivery of digital infrastructure projects as well as promote interoperability and ICT policy coordination among African economies and sectors.

Digital infrastructure projects and interoperability schemes announced across Africa since the COVID-19 emergency began include collaborative 5G network projects by MTN-Ericsson in South Africa, Djezzy-Nokia in Algeria, Telma-Ericsson in Madagascar and Safaricom-Aviat in Kenya (Barton, 2020b), a new tier III data centre in Cameroon (Mulyungi, 2020), and a high-capacity regional express cable from Senegal to Cabo Verde (HMN, 2020) (Box 4). The Ivoirian and Ghanaian governments' respective pushes for interoperable digital financial systems and electronic payment systems (ITC and Telecom, 2020a, 2020c) are also laudable, as is the Central Bank of Nigeria's recently announced multibillion-dollar infrastructure development company (Ashike, 2020).

Box 4. Some digital infrastructure projects in Africa

Algerian mobile operator Djezzy and Nokia recently trialled a project to offer high-capacity ultra-broadband transceivers to support Algerian operators as they transition to 5G networks. The project will reportedly grant Djezzy a strong solution for mobile backhaul as well as improve its network capacity (Barton, 2020a).

Telma, Madagascar's national telecommunication provider, on 26 June 2020 switched on its Ericsson-backed 5G commercial network to provide high-speed services and mobile connectivity to subscribers, including gaming and entertainment services, health care, education, energy, agriculture, the Internet of Things and business applications (Telma Madagascar, 2020).

The South African government recently announced plans for a space infrastructure hub to support the development of satellite infrastructure. Project Thobela on broadband development aims to boost internet connectivity for businesses and households increasingly reliant on the internet, especially since the COVID-19 crisis (O'Grady, 2020c).

3.4 Regulatory and institutional upgrading initiatives

Although governments around the world largely tightened their national borders to check the spread of COVID-19, a collaborative international approach appears to have taken hold, particularly among research teams and vaccine alliance groups, in the ongoing quest for COVID-19 therapies and vaccines (Capurro, 2020). The collaborative approach, rather than retreat to protectionism, remains the orthodoxy for finding solutions to global challenges.

Based on the view that economies marked by liberal market principles and positive investment climates offer the best prospects for advancing the international expansion of African digital multinationals, this paper calls on African policymakers at national and regional levels to actively embrace and sustain such attractive institutional contexts. This entails, for example, promoting UNCTAD's tools on regulatory transparency, simplified procedures and transactional electronic single windows (UNCTAD, 2020); and, at the global level, supporting a renewed push for an equitable General Agreement on Trade in Services (GATS) to redress the partial closure to FDI of many service sectors, including telecommunication, on which the digital economy depends (Eden, 2016).

The trend in investment climate reforms appears positive across Africa, particularly at the regional level. Indeed, the imminent launch of the African Continental Free Trade Area (AfCFTA) and its recently announced online mechanism for monitoring, reporting and removing non-tariff barriers, as well as the Intra-African Trade Fair in

2021 and the African E-Commerce Platform, illustrate the continent's priority focus on integrating its vast market space in order to mobilize investment (African Union, 2020). Furthermore, as noted earlier, several African countries, including Benin, Kenya, Lesotho, Mali, Rwanda, Tanzania and Uganda, have reportedly taken advantage of UNCTAD's business-friendly digital services to sustain and facilitate operations amid the COVID-19 pandemic (UNCTAD, 2020).

That said, digital multinationals still face a mixed bag of regulatory conditions across African countries. Some positive strides, partly instigated by the heightened need for digitalization amid the COVID-19 crisis, include Zambia's new ICT licensing regime, aimed at opening up the market for foreign investment; the Namibian government's National Broadband Policy*,* which incentivizes digital infrastructure investment; the Ethiopian government's plan to liberalize its telecommunication market by selling a 40 per cent stake in Ethio Telecom to private overseas investors; and the Nigerian authorities' recent withdrawal of a US$2 billion tax demand on South Africa's MTN in an apparent move to mend relations. Contrastingly, foreign telecommunication providers have been at the receiving end of enforcement actions in Lesotho and Ghana for allegedly infringing regulatory conditions or obliged by Uganda's new operating licence terms to list 20 per cent of the firm on the local stock exchange.

4. Conclusions

This paper has reflected on policy ideas for enhancing the intraregional and international investment prospects of African digital multinationals in the post-pandemic era. Seeking to promote a more globally inclusive investment landscape marked by a growing population of impactful African digital multinationals, the paper advances for a number of policy recommendations organized around the four interconnecting building blocks of organizational capabilities, financing and scaling, digital infrastructure and regulatory conditions. It acknowledges positive developments reported from several African countries regarding each of these areas but contends that significantly more needs to be done. A concerted multilevel effort by policymakers, governments, leading industry players and other influential stakeholders is needed to bring about a step change in the international investment prospects and outcomes for African digital multinationals in the post-pandemic global economy.

This paper calls for excellent strategic leadership and governance of the soon-to-be-launched AfCFTA to enhance its prospects of realizing the vision of an integrated and more liberal operating context for trade, investment and the digital economy. This is crucially important, as the success of the AfCFTA will allow Africa's vast economic and investment potential to be fully and effectively accessible to businesses across the continent and beyond. The recent AfCFTA-inspired deal between the Ghanaian government and a South African infrastructure provider to improve rail transport infrastructure, export logistics and intracontinental movement of freight and reported negotiations for at least two similar rail projects in West and Southern Africa exemplify the kind of benefits that the AfCFTA may catalyse (Bishop, 2020).

Space limitations have not allowed much fine-grained nuancing of this paper's policy discussions, but it suffices to say that a suitably segmented, tailored and targeted approach to providing support will be better than a "one size fits all" perspective. Such an approach would ensure, for example, that smaller African digital multinationals are targeted with more dedicated support measures than their better-heeled counterparts.

Finally, as the COVID-19 crisis amply illustrates, the future is undeniably digital. Given humankind's shared fate, it behoves policymakers and other influential stakeholders at the supranational, regional and national levels to work more assiduously towards the more globally inclusive digital economy advocated in the present paper.

References

African Union (2020), Joint Statement on African Continental Free Trade Area on the Occasion of the Commemoration of African Integration Day, African Union, 7 July.

African Private Equity News (2020), Catalyst Fund backs three African start-ups, 24 June.

Ashike, H. (2020), CBN announces establishment of N15trn infrastructure development company, *Business Day*, 20 July.

Barton, J. (2020a), Nokia and Djezzy implement ultra-high network capacity in Algeria, *Developing Telecoms*, 30 June.

Barton, J. (2020b), Safaricom taps Aviat for 5G backhaul in Kenya, *Developing Telecoms*, 9 July.

Barton, J. (2020c), MTN Ghana seeking review of market dominance restrictions, *Developing Telecoms*, 9 July.

Barton, J. (2020d), Ethio Telecom stake available to foreign investors, *Developing Telecoms*, 28 May.

Barton, J. (2020e), World Bank grants Niger $100m for digital push, *Developing Telecoms*, 14 July.

Barton, J. (2020f), Cameroon's digital economy experiencing strong growth – R&M, *Developing Telecoms*, 18 May.

Barton, J. (2020g), Vodacom facing legal issues in Lesotho, *Developing Telecoms*, 21 February.

Barton, J. (2020h), Maroc Telecom hit with anti-competition fine, *Developing Telecoms*, 3 February.

Barton, J. (2020i), Now let's build broadband, says Namibia, *Developing Telecoms*, 27 May.

Barton, J. (2020j), Zambia open to offering fifth operator licence, *Developing Telecoms*, 18 February.

Bishop, C. (2020), A train bound for Africa's future to emerge from the continent's COVID-19 gloom, CNBCAfrica, 1 July.

Business Daily (2020), Safaricom reveals investors' stake in new M-Pesa firm Wednesday, 8 July.

Capurro, D. (2020), Nobody is safe until we are all safe: why the race for a coronavirus vaccine must include developing countries, *The Telegraph*, 1 August.

Communications Week (2020), MTN, Ericsson mull commercial 5G in Nigeria, 8 July.

Communications Week (2020), MTN launches 5G network in South Africa, 1 July.

Eden, L. (2016), Multinationals and foreign investment policies in a digital world, E15Initiative, Geneva: International Centre for Trade and Sustainable Development and World Economic Forum.

Gurdus, L. (2020), "These are the next FANG stocks", Ark Invest portfolio manager says as firm sees record-breaking inflows, ETF EDGE, 1 August.

HMN (Huawei Marine Networks) (2020), HMN kicks off Senegal Horn of Africa Regional Express Cable, press release, 29 April.

Ibeh, K.I.N. and Lloyd-Reason, L. (2017), Digital technologies and SME internationalisation: A policy paper, Report to the OECD LEED Programme, May.

ITC and Telecom (2020), Côte d'Ivoire: Digital financial interoperability announced for this year, *ITC and Telecom*, 5 March.

ITC and Telecom (2020c), Ghana: World Bank pledges support for digital transformation, *ITC and Telecom*, 28 March.

Jackson, T. (2020a) Nigerian fintech startup Wallets Africa secures undisclosed funding round, *Disrupt Africa*, 29 June.

Jackson, T. (2020b) Google for Start-ups Accelerator Africa selects 20 start-ups for virtual programme, *Disrupt Africa*, 19 June.

Jackson, T. (2020c) Nigerian startup launches WhatsApp-based bot to connect shoppers with retailers, *Disrupt Africa*, 11 June.

Jackson, T. (2020d), Tanzanian fintech startup launches AI-based personal finance app, *Disrupt Africa*, 30 June.

Jackson, T. (2020e), Kenyan health companion Nadia helps users consult with doctors in real-time, *Disrupt Africa*, 30 June.

Jackson, T. (2020g), African start-ups invited to apply for 3 ITU Innovation Challenges, *Disrupt Africa*, 9 July.

Jackson, T. (2020h), Africa's e-health ecosystem is booming, but can it sustain this level of growth? *Disrupt Africa*, 9 July.

Jackson, T. (2020i), Nigerian B2B e-commerce startup TradeDepot raises $10m pre-Series B funding, *Disrupt Africa*, 14 July.

Kasemiire, C. (2020), Beyonic acquisition to increase market access, *Daily Monitor*, 7 July.

Kasraoui, S. (2020), World Bank loans Morocco $500 million to advance digitalization reforms, *Morocco World News*, 23 June.

Lattimore, P. (2015), South-East Asia: smartphone boom, 22 October.

Madden, P., and Kanos, D. (2020), Figures of the week: Digital skills and the future of work in Africa, *Business Daily*, 22 July.

Madowo, L. (2020a), Jumia: The e-commerce start-up that fell from grace, BBC, 29 April.

Madowo, L. (2020b), Silicon Valley has deep pockets for African start-ups – if you're not African, *Guardian*, 17 July.

McKendrick, J. (2020), What's next for technology-driven ventures in turbulent times, *Enterprise Tech*, 31 July.

Meyer, K.E. and Peng, M.W. (2005), Probing theoretically into Central and Eastern Europe: transactions, resources, and institutions, *Journal of International Business Studies*, 36, 600-621.

Mugisha, E.C. (2020a), Report: Rwandans spend 7 per cent of their income on internet,*The New Times*, 15 July.

Mugisha, E.C. (2020b), Rwanda inks deal to host Africa's only big data hub, *The New Times*, 9 March.

Mulyungi, P. (2020), Cameroon welcomes a newly constructed tier III data center, *Construction Review Online*, 20 July.

Naspers Group (2020), We build leading companies that empower people and enrich communities, https://www.naspers.com/.

Nwagbara, C. (2019), NCC disburses N100 million to universities for ICT Research, May 24.

Nzekwe, H. (2020), Egyptian healthtech startup Vezeeta secures USD 40 mn series D, 11 February.

OECD (2016), Meeting the policy challenges of tomorrow's digital economy,

www.oecd.org/internet/ministerial/.

O'Grady, V. (2020), Paraguay and Nigeria in no hurry to roll out 5G, 15 July.

O'Grady, V. (2020b), Zimbabwe frees up spectrum but data costs rise, 12 May.

O'Grady, V. (2020c), South Africa to invest in satcoms and broadband expansion, 25 June.

O'Grady, V. (2020d), Nigeria announces new broadband plan, 19 December.

O'Grady, V. (2020e), Nigerian government withdraws claim against MTN, 13 January.

Reuters (2020), South Africa's MTN allows customers to pay for online shopping using mobile money, 29 June.

RightCom (2020), About us, https://right-com.com.

Teece, D.J., Pisano, G., and Sheun, A. (1997), Dynamic capabilities and strategic management, *Strategic Management Journal*, 18(7), 509–533.

Telma Madagascar (2020), Telma and Ericsson launch commercial 5G services in Madagascar, 20 June.

Ukpe, W. (2020), Actis-backed group acquires Nigerian university, Nairametrics, 1 July.

UNCTAD (2017). *World Investment Report 2017: Investment and the Digital Economy*. New York and Geneva: United Nations.

UNCTAD (2020), How UNCTAD's e-government platform helps countries stay open for business during COVID-19, https://unctad.org/en/PublicationsLibrary/diae2020infd1_en.pdf.