

DIGITAL TECHNOLOGIES USE AMONG FEMALE-LED MSMES IN GHANA: ACCESS, CONSTRAINTS AND OPTIONS FOR CLOSING THE GAPS

Key findings

- Access to mobile phones is near-universal among the micro, small and medium scale enterprises (MSMEs) owners interviewed, but access to smartphones and the Internet has rural-urban and north-south gaps.
- There is a significant gender gap in smartphone ownership for participants in rural communities of the northern region compared with rural communities in the south.
- The youth 35 years and younger, irrespective of gender, use digital technologies (social media) to promote their business more than adults over 35 years. Generally, both youth and adult participants who have formal education are more likely to use technology across all the study locations.
- Young people particularly in urban areas also take advantage of digital platforms (YouTube, Google) to learn new skills.
- Level of formal education is strongly correlated with digital literacy and adoption.
- Digital technologies use is high among urban residents and very limited among rural residents primarily because of limited access to internet and smartphones in the rural areas
- Digital infrastructure deficits, high cost of Internet data and digital illiteracy are dragging digital penetration behind and fuelling inequality in the digital ecosystem.

Recommendations

- Prioritise digital skills training for women in the informal sector and rural areas and those without formal education to bridge the digital skills gap and to promote inclusive digital transition among MSMEs.
- Digital skills training must also be given on the risks associated with using the Internet and how to keep accounts and transactions secure while doing business online.
- Invest in digital infrastructure in rural and peri-urban areas and reduce the cost of data to enhance digital inclusion.

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Brief 1

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Access, Constraints and Options for Closing the Gaps**

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Introduction

Progress and Gaps in Digital Technologies Diffusion

Digital technologies are rapidly disrupting work and business ecosystems around the world (Mazzarol, 2015). In 2016, the digital economy was estimated at USD 11.5 trillion or 15.5% of global gross domestic product (GDP) and was expected to reach 25% in less than a decade—far outperforming the growth of the traditional sectors (World Bank, 2019). In the developing world, this ongoing digital transition offers small businesses the opportunity to access wider markets, connect to global supply chains and improve access to business information and financial resources (Cesaroni, Demartini & Paoloni, 2017). In sub-Saharan Africa (SSA), electronic payments dominated by mobile money platforms by telecommunication companies are driving financial inclusion among the underserved (Huawei & Oxford Economics, 2016). Similarly, e-commerce is growing rapidly in Africa with an estimated annual growth rate of more than 40%, while the entire digital economy of Africa is estimated to reach USD 300 billion by 2025 (World Bank, 2019; McKinsey, 2013).

While these numbers are impressive, there is also widespread evidence of inequality in terms of access and utilisation of digital services among men and women and between rural and urban dwellers. Women's access and use of digital technologies lag behind that of men in SSA, with women being 45% less likely to access the Internet than men (World Bank, 2020; Worldwide Web Foundation, 2020; Grandy et al., 2020). Apart from the listed benefits of increasing digital technologies penetration around the world, the economic consequences of the novel coronavirus pandemic that hit the world in late 2019 have further demonstrated the vital role of mobile and digital technologies in every aspect of human engagement—work, trade, education, finance and more.

Mobile and digital technologies diffusion in Ghana is happening generally at a faster pace than in the rest of sub-Saharan Africa (GSMA, 2020). Nevertheless, achieving universal coverage remains a challenge due to gaps in digital infrastructure between urban and rural areas. Again, the available research evidence on digital penetration in Ghana is more generic and less disaggregated by gender and among micro, small and medium-scale informal businesses. This policy brief takes a closer look at the accessibility and utilisation of digital solutions for female-led MSMEs and discusses possible pathways and policy recommendation for bridging the existing digital divide. In particular, we seek to answer the following questions:

- How does access to and use of mobile and digital technologies differ for female-led micro, small and medium-scale informal enterprises in Ghana compared to male-led businesses in the same category?
- How does access and use of digital technologies differ for rural vs. urban MSMEs businesses and what are the driving factors for the existing gaps?
- What existing or new policies can help close both the gender and spatial digital divide in Ghana?

Methods

To study these questions, and others related to digital inclusion in Ghana, Participatory Development Associates (PDA) and the Overseas Development Institute (ODI), with funding from the Mastercard Foundation (MCF), rolled out a qualitative study to assess the impact and recovery strategies of female-led MSMEs businesses, with a component focusing on access and use of mobile and digital technologies before, during and after Covid-19 lockdowns. Data and evidence for the study, and used for this brief, were collected from 173 female and male entrepreneurs using focus group discussions, in-depth and key informant interviews from three regions of Ghana—Northern, Ashanti and Greater Accra regions—and six localities: Tamale, Kumbungu, Greater Kumasi, New Edubiase, Accra Metro Area and Ningo Prampram (see section 3 of the [main report](#) for more on methods used). These study locations were carefully selected to reflect the realities of mobile and digital technology accessibility and utilisation in rural and urban settings and for female and male MSME entrepreneurs operating in the informal sector. Approximately half of the business owners interviewed were between the ages of 18 to 35 years and referred to in this brief as youth/young people while the other half were 36 years and over herein referred as adults. An important leg of the study, however, was the assessment of the use of mobile and digital technology resources to support business transactions—including marketing, communication, payments and training among others—by female-led small businesses, before and during the Covid-19 pandemic.

Key findings/insights

Female entrepreneurs' access to mobile devices and Internet services

The data from this study indicate a high level of ownership of mobile phones with no gender variation. Nearly all participants engaged in this study had access to at least a basic (dumb) phone. This applied to both male and female participants in the north, south, rural and urban areas.

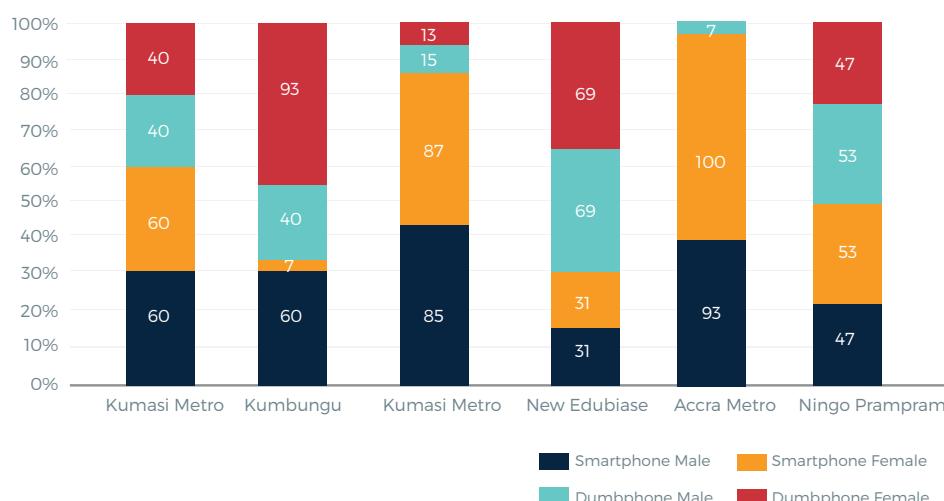


Figure 1: Percentage distribution of phone ownership by gender and location.

Source: PDA Data, May 2021.

Again, while access to basic phones was near-universal among the study participants, ownership of a smartphone and access to the Internet presented a different trend—with rural-urban and north-south gaps. There was also a significant gender gap in smartphone ownership among participants in rural communities of the Northern Region. See **Figure 1** for the percentage of participants who reported owning different types of phones at the different study locations and between male and female entrepreneurs.

Figure 1 shows that the ownership of smartphones revealed no significant gender variation across the study communities, except in Kumbungu, where only 7% of women vs. 60% of men reported owning a smartphone. Generally, smartphone ownership was high for the urban areas of Tamale, Kumasi and Accra with no gender variations, compared to the rural and peri-urban areas of Kumbungu, New Edubiase and Ningo Prampram. This rural-urban gap in smartphone ownership results from two reasons: first, the generally low income among rural communities; and second, the limited access to mobile and Internet services in rural areas. However, the data shows that smartphone ownership is higher for urban residents in the south (Accra, Kumasi) than in the north (Tamale). This also reflects the poverty profile of Ghana, with the Northern Regions having higher levels of poverty. Thus, the likelihood of many people not being able to purchase or own a smartphone is generally higher in the north than the south.

Female entrepreneurs' utilisation of mobile and digital resources in business operations

Voice call—using the phone to call or receive calls from customers—was reported by both male and female entrepreneurs as the most common use of the mobile device in business. Voice call is available on all phone types—basic phone and smartphone—and requires little technical sophistication to operate. Participants in rural and urban areas, young and old, educated and uneducated can use voice calls to interact with their customers or business partners. This ranges from such transactions as ordering stock in absentia from wholesalers in big towns and cities and having it delivered via public transport (bus), to selling and recovering sales from retail clients. Interviewees confirmed that voice call reduces the time and financial cost of transacting business compared with travelling to undertake such transactions:

I use a Yam[dumb] phone. I use it to call my customers. I have some customers in Accra, so I sew their things and send it to them in Accra. When they receive it, they send me the money through mobile money. (Youth, female, fashion designer, urban area, Ashanti Region)

It makes my business to move fast. It saves me a lot of time. For instance, instead of going to pick the work, they simply send it to me using social media and then I do it and send through the same medium for confirmation. When it is confirmed, I produced and deliver and use mobile money as well collect my money for my labour. I have also gotten clients who did not know me but through social media got to know me and came to offer me job. (Adult, male, stamp manufacturer, urban area, Northern Region)

Social media marketing

Participants who owned a smartphone, particularly the youth (35 years and younger), usually advertised their wares on social media more than those above 35 years. Similarly, interviewees with at least secondary education were more likely to apply digital technologies in their business than those with little to no formal education. The youth participants reported higher levels of formal education than the adults in both the rural and urban areas. This is partly the result of improved access to primary and secondary education in Ghana over the last two decades, through intentional government policies and programmes to eliminate economic barriers to education with the aim of providing universal access to basic and secondary education. It is important to highlight, however, that access to education correlates strongly with digital literacy and skills—a point which is also well established in the digital transition literature. The distribution of participants using digital technology to promote their business is presented in **Figure 2**.

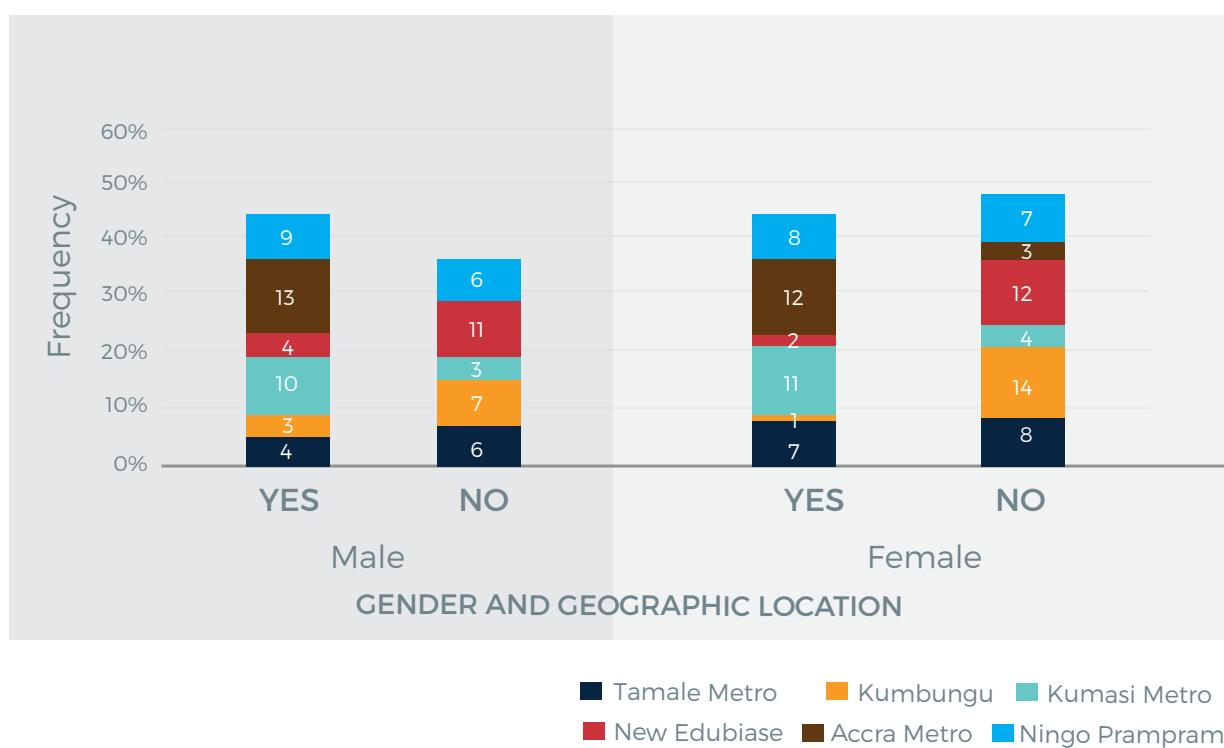


Figure 2: Number of interviewees promoting business on the Internet and digital platforms.

Source: PDA Data, May 2021

From **Figure 2**, we can see that social media use for business transactions was higher among participants in the urban areas of the south (Accra, Kumasi) than of the Northern Region (Tamale). Again, the use of digital technologies was generally higher in urban areas than in rural and peri-urban areas in the study. However, access to a smartphone and the use of digital services was much more limited in the rural areas of the Northern Region (Kumbungu and its environs) compared to rural and peri-urban areas in the south (New Edubiase, Ningo Prampram).

The common platforms reportedly used by participants were WhatsApp, Facebook and Instagram. WhatsApp was the most popular platform to promote businesses. Participants usually took pictures of their wares and posted them on their WhatsApp status or in WhatsApp groups. Other popular platforms for marketing were Facebook and Instagram. The use of Instagram, Snapchat, and Pinterest was, however, reported by participants in the south (Accra and Kumasi). Participants in the north as well as those in the rural areas are limited to the use of WhatsApp, and to some extent, Facebook. Even though YouTube was mentioned quite a number of times, it was typically used to learn new skills or new ways of doing things, styles and accessing information rather than marketing. The same applied to those who mentioned using Google.



Use of mobile money

Almost all participants had a registered mobile money account. However, not everyone used it for business transactions. The percentage of participants who reported using mobile money for payment transactions relating to their business in the different locations and by gender is presented in **Figure 3** below:

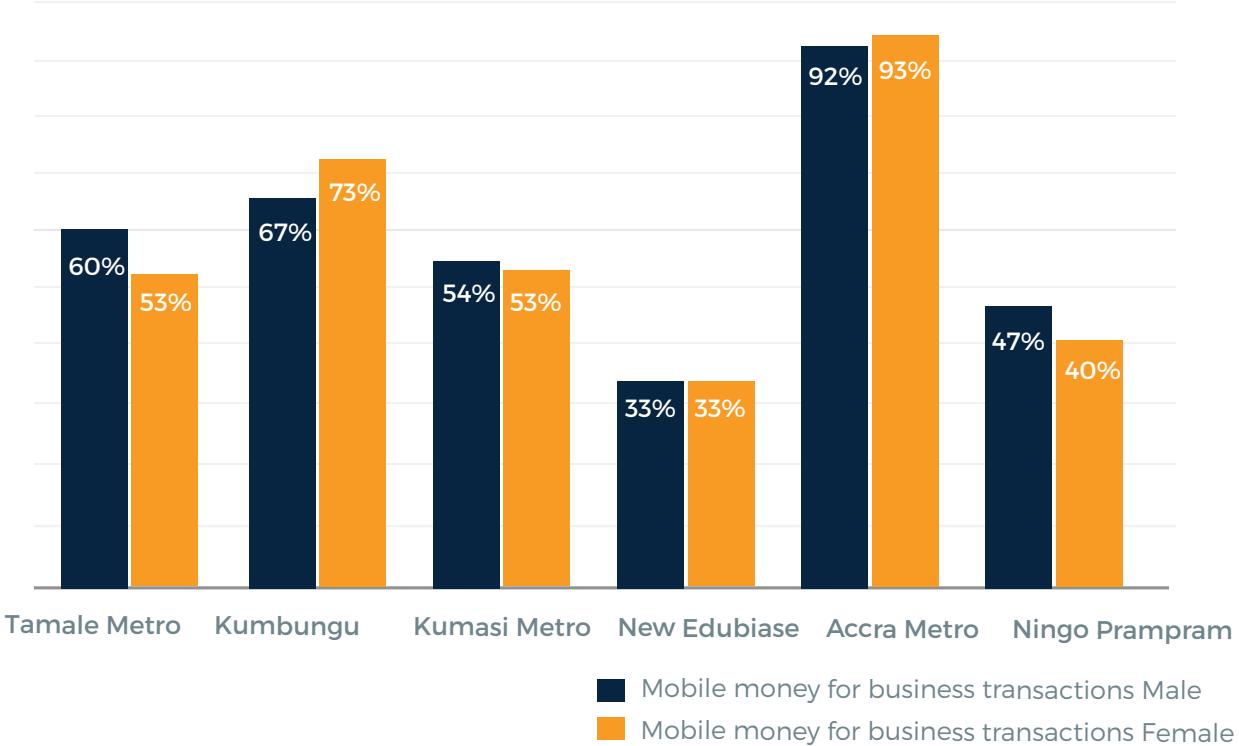


Figure 3: Percentage of participants using mobile money for business transactions.

Source: PDA Data, May 2021.

As expected, the use of mobile money to facilitate business transactions was generally higher in urban areas than rural areas, with no detected gender variations. The only deviation from this was Kumbungu, a rural area in the north that reported higher rates of mobile money use than some of the urban areas. This is not fully explained by the data but is partly because of the limited payment options available. Overall, mobile money payment transactions among this category of businesses are generally high, in line with available national data on mobile money transactions, which are growing faster than bank transactions.

The gender digital divide present in the data

Across the study communities, a gender divide in the use of digital technologies was observed in the Northern Region in rural and urban areas, although it was much greater in the rural areas. No significant gender gap was observed in the Ashanti and Greater Accra regions from the data. However, in Tamale, although access to a smartphone was 60% for both male and female participants, their use of social media for marketing differed significantly. While 40% of male participants in Tamale with a smartphone also used it to promote their business on social media to a wider market, only 20% of the female participants with access to a smartphone reported the same. This was more marked in the rural areas (Kumbungu) where access to a smartphone was rare for the female entrepreneurs interviewed. Here, only 7% of female participants reported having access to a smartphone and the Internet and using it to promote business, compared to 60% of the male participants who owned a smartphone and had Internet access, with 20% of them using it to promote their businesses (see figures 1 and 2 respectively).

The digital infrastructure gaps in rural and peri-urban areas

Unequal distribution of mobile and Internet infrastructure was reported as a major hindrance to using mobile phone services and the Internet to promote businesses, among female- and male-led businesses in the rural and peri-urban areas. This finding is further corroborated by existing studies which report a significant lag in infrastructure distribution in rural parts of Ghana compared with urban areas, which affects their access to reliable and affordable Internet connectivity (World Bank, 2019). This challenge was confirmed by participants in all rural and peri-urban communities. Some of the participants shared their frustrations with the limited mobile and Internet services as follows:

Sometimes the network is not good since morning you could switch on your data and wouldn't get any message because of the network. (Youth, male entrepreneur, rural community, Greater Accra Region)

I have problems with my network and there are frequent power outages so my phone is usually off. (Youth, female, agribusiness, rural community, Ashanti Region)

The digital literacy gaps

As elaborated in earlier sections, levels of formal education were observed to correlate with digital literacy and the likelihood of using mobile or digital technologies in business operations. Digital illiteracy was reported by both men and women as a major hindrance to the effective use of digital technologies for business purposes. This applied in rural and urban, northern and southern communities. While digital illiteracy affected all entrepreneurs irrespective of gender, it was much more pronounced in those adult women (and men) who had low levels of completed formal education. This demographic group generally have low levels of digital literacy and a poor ability to effectively use digital technologies for business even when they have access to a smartphone and the Internet. Some of the study participants and key informants explained this phenomenon as follows:

Because I am not able to read and write, I can't use the WhatsApp and Facebook to send pictures as people do. My daughter uses the phone a lot when she comes back from school. (Adult female, hardware dealer, urban community, Ashanti Region)

Digitisation is an issue. First many of women are not literate and it is worse with older women. Secondly many women do not own android (smart) phones. Another challenge in the rural areas is poor Internet connectivity. (KII, Camfed Ghana, Kumbungu)

High cost of data affects sustainable use of internet by MSMEs.

The cost of data is unaffordable to many people in Ghana relative to earnings and this has been identified as a major barrier to universal connectivity. The Alliance for Affordable Internet (A4AI) confirmed Ghana is yet to meet the affordability target of “1 for 2”— defined as 1 GB of data for no more than 2 percent of national monthly income (A4AI, 2018); a target which is more acute for rural populations who typically have lower incomes than their urban counterparts (World Bank, 2019). Currently, Ghana’s daily minimum wage stands at GHS 12.53 or USD 2.09 translating into a minimum monthly income of about GHS 338.31 or USD 56.39 (Myjoyonline.com, 2021). The cost of 1 gigabyte of data is also around GHS 10.00, and not significantly different from the national daily minimum wage hence unaffordable to many that earn around and below the minimum wage. A nationally representative survey conducted by the World Wide Web Foundation in Ghana found a significant percentage of female participants- 33% in rural areas and 26% in urban areas indicating inability to afford data as the main reason for not using the internet (World Wide Web Foundation, 2020). While embracing the power of the Internet to reach wider markets for their businesses, participants also pointed out that the high cost of Internet data affects the sustainable

use of the Internet. However, they acknowledged that the benefits of using the Internet to promote their businesses outweigh the cost of data if you are able to afford it. This is thus a major barrier to Internet connectivity in Ghana and ought to be addressed. Some of the concerns shared by participants regarding the cost of using the Internet are given below:

The only problem is the credit for bundle because you need a lot of credit if you want to post pictures online frequently. You have to be consistent and always remind people that this is the business you are doing. (Youth, female, interior decorator, urban community, Ashanti Region)

The bundle is very expensive. After the lockdown, bundles no longer lasts as it used to. (Youth, male, metal fabricator, urban community, Ashanti Region) Data is very expensive but cannot be done away with if you want to promote your business on social media. There is always the need to monitor the account. It is something I budget for though. (Youth, female, interior decorator, urban community, Greater Accra Region)

Policy implications

Prioritise digital skills training for women in the informal sector and in rural areas and those without formal education to bridge the digital skills gap and to promote inclusive digital transition among MSMEs. To bridge the digital skills gap for a more inclusive digital transition, policy and programming interventions need to focus more on capacity-building, developing basic digital skills for women in the informal economy and in rural communities. To do this, both government and non-governmental agencies with a focus on digital transformation need to look at the particular requirements and skills gap of female MSME owners. Policy and programmes promoting digital penetration need to design appropriate digital literacy programmes for female- and male-led MSMEs to ensure they are not left out of the ongoing digital transformation.

Digital skills training must include how to avoid the risks associated with using the Internet and while doing business online. While access to the Internet presents several advantages for businesses, there is also the risk of compromising personal and business data privacy and exposure to Internet fraudsters. Female business owners especially need to be educated about cybersecurity threats as they run or promote their businesses on digital platforms, to minimise those risks and for a more sustainable use of the Internet.

Invest in digital infrastructure in rural and peri-urban areas and reduce the cost of data to enhance digital inclusion. Internet connectivity in Ghana is among the highest in SSA. Yet, there is a significant gap between rural and urban areas in terms of accessibility because of the network infrastructure deficits in rural areas. For Ghana's digital transformation agenda to be inclusive and to achieve universal connectivity nationwide, this gap needs to be bridged. Government, through the Ministry of Communications, should collaborate with and provide incentives to the telcos to invest more and extend their services to all parts of the country. Related to this is the high cost of data in Ghana, which is unaffordable for many people, including many MSME operators. This can be addressed partly through relevant policies and incentives to the telcos to extend Internet services to rural areas.

This policy brief draws from the report: *Navigating the Covid-19 Pandemic: The Experiences of Female-Led Micro, Small and Medium Enterprises in Ghana*, available from PDA Ghana. Read the full report [here](#)

References

- Cesaroni, F. M., Demartini, P. & Paoloni, P. (2017). Women in business and social media: Implications for female entrepreneurship in emerging countries. *African Journal of Business Management*, 11(14), 316–326.
- Global System for Mobile Communications (GSMA) (2017). Country Overview: Ghana. Driving Mobile-Enabled Digital Transformation. <https://www.gsmaintelligence.com/research/?file=986feba592e4e9c07ff793916212eb66&download>.
- Global System for Mobile Communications (GSMA) (2020). Bridging the gender gap: mobile access and usage in low- and middle-income countries. Connected Women: The Mobile Gap Report 2020. London: GSMA. <https://www.gsma.com/r/gender-gap/>.
- Grandy, G., Cukier, W. & Gagnon, S. (2020). (In)visibility in the margins: COVID-19, women entrepreneurs and the need for inclusive recovery. *Gender in Management*, 35(7/8), 667–675.
- Huawei and Oxford Economics (2016). Digital Spillover: Measuring the True Impact of the Digital Economy. https://www.huawei.com/minisite/gci/en/digital-spillover/files/gci_digital_spillover.pdf.
- Mazzarol, T. (2015). SME's engagement with e-commerce, e-business and e-marketing. *Small Enterprise Research*, 22:1, 79–90.
- McKinsey Digital (2013). Open Data: Unlocking Innovation and Performance with Liquid Information. https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/McKinsey%20Digital/Our%20Insights/Open%20data%20Unlocking%20innovation%20and%20performance%20with%20liquid%20information/MGI_Open_data_FullReport_Oct2013.ashx
- Myjoyonline (2021). National Daily Minimum Wage for 2021 increased by 6%, now ₦12.53. <https://www.myjoyonline.com/national-daily-minimum-wage-for-2021-increased-by-6-now-%C2%A212-53/>
- World Bank (2019). Digital Economy for Ghana Diagnostic Report. Washington, DC: World Bank. <https://pubdocs.worldbank.org/en/412821598381054828/Ghana-DE4A-LOW-Res.pdf>.
- World Bank (2020). Leveraging ICT Technologies in Closing the Gender Gap. Washington, DC: World Bank. <https://elibrary.worldbank.org/doi/pdf/10.1596/33165>.
- World Wide Web Foundation (2020). Women's rights online: closing the digital gender gap for a more equal world. Report. London: World Wide Web Foundation. <http://webfoundation.org/docs/2020/10/Womens-Rights-Online-Report-1.pdf>.

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