FoodBev SETA

Food & Beverages Manufacturing
Sector Education and Training Authority

Bridging the Digital Literacy Divide in Rural and Township Communities

August 2022

Table of Contents

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Abstract

Global trends have shifted more significantly into digital technology. South Africa is steadily moving into new and advanced digital skills. Thus, the importance of digital skills in remote areas of South Africa is emphasised by the National Development Plan. Rural and township communities in South Africa are generally poverty-stricken communities. Furthermore, these communities are mostly considered to lack technical skills, economic growth, and sustainability which leads to poverty and unemployment. Although internet and broadband penetration have increased in South Africa, there are many obstacles for rural or disadvantaged communities to get access to Information and Communication Technology (ICT) and its services. The digital divide between disadvantaged and advantaged communities is an important economic and social issue in the country. Digital literacy skills in rural and township communities remain a significant obstacle in bridging the digital divide. This mini research aims to provide insight on how FoodBev SETA can assist in improving digital literacy in disadvantaged communities.

1. Introduction and background

Digitalisation is rapidly reshaping economies across the world. Studies reveal that the recent COVID-19 pandemic has acted as a catalyst and has increased the pace of digital transformation (FoodBev SETA, 2021; Asian Development Bank, 2021; Deloitte, 2018). There is an increasing need to be equipped with digital literacy skills to cope and navigate within the current environment.

Digital literacy can be defined as the ability to confidently use technology in a way that is beneficial to personal, business, and societal growth (Department of Communication & Digital Technologies, 2020). It involves the awareness, critical thinking, and technical skills to use technological tools.

The combined impact of digital technology trends, such as the Internet of Things (IoT), big data, robotics, and artificial intelligence (AI), is changing how people, economies and societies operate (Akyazi et al, 2020). People now live in an information era, where internet access is the foundational tool used to access key information and digital media necessary to navigate our daily

lives. Understanding how to use the internet and other technologies is critical in helping people achieve their goals (Department of Communication & Digital Technologies, 2020).

The ability of communities and individuals to participate in the growing social and economic revolution, to benefit from and to be enriched by it, increasingly depends on the acquisition and deployment of digital skills (Department of Communication & Digital Technologies, 2020). Digital skills refer to capabilities and knowledge required to engage with digital technologies for personal, societal, political, and economic purposes (Matli & Ngoepe, 2020). Across the world, the adoption of digital skills among the rural and township communities is a subject that has been left out of the public debate, as the challenges of access to connectivity are at the centre of numerous studies in both developed and developing countries. Studies show that while indeed poorer communities have limited access to digital technologies due to lack of infrastructure, the major problem is the limited access to training in digital technologies and the poor attainment of digital skills (Chetty *et al*., 2017; Chetty, *et al*., 2018).

Most people from rural and township communities in South Africa, do not have the necessary skills needed to utilise information and communication technologies especially those who are not skilled, employed, or trained. The World Economic Forum Global Competitiveness (2018) report ranked South Africa 116 of 140 countries for digital skills among the population (Schwab, 2018). South Africa has one of the highest rates of inequality across its socio-economic spectrum. The difference between the cities, suburbs, townships, and rural communities is a big concern. Previously disadvantaged communities remain at a disadvantage in this era of digital transformation (Department of Communication & Digital Technologies, 2020). As such, the digital literacy divide that exists in these communities is a major impediment to the country's success and future (Duma *et al*., 2021). It is, therefore, strategic to place rural and township communities at the forefront of public discussion on the potentialities of digital transformation.

The inevitable part of living in the digital era is that being digitally literate can advance people's abilities to participate in the economy. In this way, bridging the digital divide by ensuring that everyone has the necessary digital skills to succeed in today's technology driven world is of global importance. Digital skills, in particular digital literacy, provide opportunities for empowerment to the marginalised sections of the country (Duma *et al*., 2021). Therefore, concerted efforts need to be made towards making people digitally literate in rural and township communities and through running of skills initiatives. This research includes a review of published and unpublished research material. The results of the review indicate that whilst the country may be moving toward the Fourth Industrial Revolution, the country has substantive barriers to overcoming the digital divide.

Digital illiteracy is one of the major limitations in disadvantaged communities (as well as reasons for infrastructure and costs). There is a need to offer digital skills training programmes in disadvantaged communities. The SETA should strive to be innovative and opportunistic in improving digital literacy in disadvantaged communities. It is with this background that Food and Beverages Manufacturing Sector Education and Training Authority recognises the heightened need for digital skills development in rural and township communities. The opportunities that come with digital literacy can change the livelihood of people in previously disadvantaged communities. Therefore, the aim of this research is to determine the digital skills needs in rural and township communities in South Africa.

In responding to the aim, the objectives of this research are to:

- Establish the current state of digital literacy in low-income communities (rural and township);
- Determine barriers to digital literacy in rural and township communities; and
- Identify potential collaboration opportunities for the development of digital skills.

In pursuit of the stated objectives, the research addresses questions relating to the current state of digital literacy in South Africa's rural and township communities challenges that impede the development of digital skills in these communities and possible communities of collaboration between the SETA and other organisation to facilitate digital skills development.

The rest of the paper presents the methodological process in Section 2 and discusses how the systematic review was conducted. Section 3 presents results and analysis of literature. Section 4 concludes the paper and provides recommendations.

2. Methodology

In addressing the objectives of the research, secondary research method was used. The collection of data mainly involved desktop research which involved the use of existing literature. A comprehensive review of the literature (published and unpublished) and reports on digitalisation was conducted. The researchers opted for this methodology because most information was readily available. There were many sources from which relevant data could be collected in a short period of time through secondary research. All data was collated, analysed, and interpreted to address the objectives of this research.

3. Results

Current Landscape Pertaining to digital literacy in low-middle income communities

Various studies argued that digital literacy provides an individual with core capabilities to achieve valued outputs in life and that it is a critical enabler of economic transformation as it promotes employment opportunities through the ability to access digital content and online services (Duma *et al*., 2021; Chetty, *et al*., 2018). However, digital inequalities persist and affect low-income communities. Studies have found that there exists a deepening rural-urban digital literacy gap in South Africa (Matli & Ngoepe, 2020; Siemens, 2017) In 2017 Siemens report titled "African Digitalisation Maturity Report 2017" revealed that South Africa has the highest digital literacy levels across the African continent (Siemens, 2017). However, it was also found that most people residing in rural and township communities in South Africa do not have the ability to confidently use technology in a way that is beneficial to them and societal growth (Matli & Ngoape, 2020). People residing in these low-income communities lack awareness, critical thinking, and technical skills to use technologies.

The results of this research show that lack of digital literacy is detrimental to our economy as sections of businesses are not operating to their full potential. Digital literacy divide that exists in communities is slowing down digital transformation (Matli & Ngoepe, 2020). The findings of the study indicate that to benefit optimally from digital technologies, businesses need employees with the right digital skills. In sum, the studies reviewed highlight the digital divide gap that exists in South Africa's communities. The available evidence highlights a pressing need to bridge the urban-rural digital literacy divide. The literature highlights various constraints of digital literacy. The section that follows discusses the various constraints associated with digital literacy.

Barriers to Digital Literacy in Communities

As indicated in the previous section, digitalisation in townships and rural regions of South Africa remains a challenging factor and South Africa still has a long way to go in narrowing the gap. Studies show that some of the prominent hurdles that hinder digitalisation in townships and rural communities include lack of digital infrastructure (Chetty *et al*., 2018; Chetty *et al*, 2017)**.** Digital infrastructure in this case refers to services that make use of technology capabilities. This often includes internet connectivity, fixed broadbands, mobile telecommunications, Internet of things,

communication satellites and network infrastructures such as Wi-fi networks. The analysis of the literature further reveals that the lack or shortage of access to reliable electricity is proving to be another major impediment to the operation and growth of information and communication technologies in townships and rural communities (Chetty *et al*., 2017). The results reveal that the entire digital ecosystem relies heavily on reliable, affordable electricity, from home internet connections to the base stations that underpin cellular networks to the data centres that store the internet's content. It is evident that the combined effect of digital infrastructure and shortage of access to reliable electricity is widening the digital divide.

Another factor in rural communities is affordability**.** The existing body of knowledge suggests that access to the right devices and cost of data are still a challenge for many rural citizens. While institutions consider building skills needed to utilise modern technology in communities, it is imperative that they consider the availability of devices. Not all people in rural communities have the skill or access to technological devices such as smartphones, laptops, or computers. Even in situations where people have access to technological devices, internet access and costs and training associated with it are other problems (Department of Communication & Digital Technologies, 2020)

Moreover, the key issue, which is the core focus of this research is lack of skills (Chetty, *et al*., 2018; Department of Communication & Digital Technologies, 2020). Rural communities do not have the required knowledge to understand digital technologies and devices. The limited access to training in digital technologies, the poor attainment of digital skills. and the limited access to opportunities are some of the factors that compound digitalisation challenges in these communities (Chetty *et al*., 2017)**.** As Chetty *et al* (2017) argue, providing digital infrastructure and technological devices in communities most affected by the digital divide cannot alone resolve the problem of digital skills or lead to an immediate adoption of such facilities. It is argued that, notwithstanding other problems, digital training is of key importance in harnessing better use of digital infrastructure. The sustainable way to tackle digital inequalities is to ensure that people are empowered with skills and tools necessary to enter the job market. If disadvantaged groups are digitally literate, they can be in a better position to break out of poverty and access employment opportunities (Matli & Ngoepe, 2020). The absence of digital skills in this age of technology denies people opportunities to be in gainful employment.

Potential Collaboration Opportunities for the SETA

There is no doubt about the benefits of digital literacy and the fact that the country must adopt innovative approaches to build up digital literacy in the given contexts. There are numerous projects in Africa which are focused on improving digital literacy. FoodBev SETA currently does not have learning programmes that are aligned to digital skills in rural communities. To better understand opportunities that are available to boost the development of digital skills in disadvantaged communities, an overview is presented below of current initiatives on digital skills development. The results illustrate that most awareness programmes are driven by non-governmental organisations (NGOs) indicating how the SETA can collaborate with NGOs to empower disadvantaged communities.

In Ethiopia, there is a partnership between Microsoft and the Ethiopian Ministry of Education which targets the transformation of competencies related to ICT presence within the Ethiopian educational system. The project promotes digital inclusion, develops the new Millennium's strategic competencies, stimulates creativity and innovation, and improves instructors' competencies. Microsoft has put its technological devices and its expertise through this program to improve the digital literacy of the youth. In Kenya, Huawei has partnered with NGOs and various organisations such as the United Nations Educational, Scientific and Cultural Organisations (UNESCO) to provide digital empowerment for remote and rural communities. The organisation (Huawei) is setting up DigiTruck which refers to digital mobile classrooms in schools to provide basic digital schools and help young people master digital skills needed for employment.[1] In Rwanda, Digital Opportunity Trust (DOT) is working closely with the Rwandan government to spread digital skills and grow digital literacy throughout the country. This programme places youth at the centre of community transformation by training them to train many others in their communities with important digital skills. [2] What is evident from these cases is that the key to successful digital transformation lies in strong partnerships and collaborations.

Closer to home, in South Africa's rural communities internet connectivity still makes it harder for digital transformation to happen. However, over recent years, there have been multiple Internet Service Providers (ISPs) that have introduced themselves to rural communities. Providers with coverage that spans over large areas such as MTN, Vodacom and Telkom are accelerating

[1] https://www.huawei.com/en/technology-insights/publications/winwin/34/on-the-road-to-digital-skills-with-digitruck

[2] https://www.nepad.org/skillsportalforyouth/good-practice/youth-delivering-digital-skills-scale

broadband connectivity to bridge the digital divide in rural South Africa. For example, in KwaZulu Natal Vodacom is investing in rural broadband connectivity. [3]In the Eastern Cape Province, Zenzeleni is an Internet Service Provider (ISP) Telecommunications Network which offers quality, high-speed internet in the rural Eastern Cape communities which is comparable to the country's most developed urban centres. Zenzeleni currently provides affordable, reliable connectivity within several communities in the rural Eastern Cape Province of South Africa, specifically in Mankosi, Mcwasa, Nomadolo and Zithulele. [4]Zenzeleni deploys the infrastructure so that citizens can either request a dedicated internet link to their home, business, or organization, or collaborate with the cooperative to get a hotspot in the village or community. The National Electronic Media Institute of SA (NEMISA) has partnered with the state entity, ZA Domain Name Authority (ZADNA), to bridge the digital skills gap in rural communities and townships across South Africa. The two entities are delivering training in schools, NEMISA's mandate is to be a sustainable skills training provider in digital technologies and creative media spaces. It targets in-school and out of school youth, women, people with disabilities, small businesses, and communities in general.[5] The two entities have agreed to enhance their drive to deliver training to schools, districts, and local municipalities to benefit from the NEMISA training programmes. This public private partnership will ensure that learners residing in rural and township communities build and mature their digital presence in this age of technology. Given the examples and recognizing the urgency of the digital divide in South Africa, the SETA has a role to play in bridging the digital divide through partnerships. The SETA can invite NGOs such as Zenzelini and ICT organisations e.g., Vodacom etc to partner with to provide a targeted population/community with internet access.

4. Conclusion

Digitisation is an important aspect in our society and is propelling communities into the 4IR space. The aim of this mini research was to determine the digital skills needs in rural and township communities in South Africa. The research established the current state of digital literacy, determined barriers to digital literacy in rural and town communities and also provided insight into how the FoodBev SETA can assist in improving digital literacy in communities. The research

[3] https://www.vodafone.com/news/services/vodacom-invests-eu166m-rural-broadband-connectivity-kwazulu-natal
[4] https://giswatch.org/en/country-report/infrastructure/south-africa
[5] https://www.itweb.co.za/content/Olx4zMknWeX756km

revealed the country's level of inequality pertaining to the digital divide during the lockdown period and the need to improve digitisation and literacy for communities is now urgent. Mastering digital skills is key to helping people work more efficiently and making life more convenient. It is vital in the context of COVID-19 that the country provides a holistic and intentional plan to improve levels of digital literacy to equalise the playing field in the world of work and social life. The key success to bridging the digital divide lies in partnerships and collaborations. The SETA has to be opportunistic and intentional in the way it will assist communities with digital literacy.

Recommendations:

- FoodBev SETA can, through Special Projects, invite NGOs and ISPs which focus on digitisation in rural and township communities to apply for grants to promote digital literacy or provide training in digitally aligned programmes as well accelerate digital transformation in the communities.
- The SETA should consider engaging Internet Service Providers Association (ISPA) to identify community owned ISPs.
- Consideration should be given to the establishment of a partnership with Media, Information and Communication Technologies (MICT) SETA for the acceleration of digitalisation projects focused on rural and township communities.
- The SETA can, through Special Projects, invite companies who have internal digital training to adopt a community to provide training to people in the community.

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