DIGITAL CONNECTIVITY AND YOUTH EMPLOYMENT OPPORTUNITIES IN THE OR TAMBO DISTRICT OF SOUTH AFRICA

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Abstract

Youth unemployment is a persistent socio-economic challenge in South Africa, particularly in rural areas such as the OR Tambo District in the Eastern Cape, where limited access to job opportunities constrains economic participation. The purpose of this study was to investigate the influence of digital connectivity on youth employment opportunities in the OR Tambo District and to identify key barriers and interventions to enhance digital inclusion and employability. The study specifically aimed to: assess the level of digital connectivity among youth, examine its relationship with employment status, identify barriers to digital technology use for employment, evaluate the role of digital skills and literacy, explore the effectiveness of existing initiatives, and propose strategic interventions. A quantitative research design was adopted. The population comprised youths aged 18–35 years residing in the district, and a total of 500 respondents were selected using stratified random sampling to ensure representation across municipalities, gender, and educational backgrounds. Data were collected using a structured questionnaire covering demographics, digital connectivity, digital literacy, employment, and barriers to digital engagement. The instrument's validity was established through expert review, and reliability was assessed using Cronbach's alpha (≥0.70), with a pilot study conducted to refine the questionnaire. The questionnaires were administered physically and electronically, and responses were analyzed using descriptive statistics, Pearson's correlation, and multiple regression. The findings revealed high

smartphone ownership but limited access to laptops and tablets, poor connectivity, high data costs, low digital literacy, and low awareness of existing initiatives. Digital skills were found to enhance employability, although gaps in advanced competencies persisted. Youth expressed strong support for interventions including expanded digital infrastructure, affordable internet and devices, and structured skills training programs. The study recommends targeted policies and programs to improve digital access, literacy, and participation in the digital economy to enhance employment outcomes for youth in the district.

Keywords: Barriers, Digital Connectivity, Employment Opportunity, Digital Literacy, Youth

Introduction

Youth unemployment remains a pervasive and escalating socio-economic challenge in South Africa and is especially acute in rural districts such as OR Tambo District in the Eastern Cape. Nation-wide, the youth (aged 15–34) unemployment rate reached 46.1% in the first quarter of 2025, up from 36.9% in 2015 (Stats SA, 2025). Among younger job seekers (aged 15–24), the rate is even more alarming at 62.4% (Pondoland Times, 2025). In the Eastern Cape province, the youth unemployment rate is estimated at 54.3%, with a labour force participation rate for youth as low as 39.8% (The Citizen, 2025). Historically, longitudinal data reveal that between 2014 Q1 and 2019 Q4 the number of unemployed youths in the province rose by 49.1%, while youth employment declined by 13.9% (ECSECC, 2020). For the OR Tambo District specifically, an earlier World Bank report indicated a youth unemployment rate of 63.4%, the highest among Eastern Cape districts (World Bank, 2020). These figures underscore the gravity of the youth employment crisis: large proportions of young people are unable to find work, many have no prior job experience, and this exclusion threatens both their individual socioeconomic prospects and the broader potential for a demographic dividend (IOL, 2025). For OR Tambo given its rural character, structural disadvantages, and high poverty levels high youth unemployment not only reduces the return on investments in education and training but also restricts local economic development and exacerbates inequality and exclusion. Thus, understanding the underlying dynamics of youth unemployment is imperative for policymakers, development practitioners, and communities seeking to design effective interventions and harness the potential of young people for inclusive growth.

Digital connectivity has emerged as a crucial enabler for youth employment and economic participation, particularly in contexts where traditional job opportunities are limited. Access to internet-enabled devices such as smartphones, laptops, and tablets allows young people to search for jobs online, access educational resources, and develop marketable skills (Howard, 2023). Online platforms, including social media, job portals, and digital marketplaces, provide opportunities for networking, remote work, and entrepreneurial activities, enabling youth to generate income even in rural and under-served areas (Ngene & Pinet, 2021). Digital tools facilitate participation in the digital economy by providing access to e-learning, virtual internships, and business incubation programs. These resources can help young people acquire both basic digital literacy and advanced competencies such as coding, data analysis, and digital marketing, which are increasingly demanded by employers (Sebele, 2023). Evidence from African contexts shows that youth with reliable connectivity and access to online platforms are better able to identify employment opportunities, develop innovative solutions, and engage in entrepreneurial ventures, ultimately enhancing their employability and socio-economic resilience (Barasa & Kiiru, 2023).

In the OR Tambo District, where traditional employment opportunities are constrained by structural and geographic factors, digital connectivity represents a potential pathway to broaden access to work, foster entrepreneurship, and integrate youth into the digital economy. By leveraging connected devices and online platforms, young people can overcome some of the limitations posed by local labor market conditions, positioning digital inclusion as a strategic tool for addressing youth unemployment. Youth in the OR Tambo District face several challenges that limit their ability to fully benefit from digital technologies. Although smartphone ownership is relatively high, access to more versatile devices, such as laptops and tablets, remains limited, restricting engagement in advanced digital tasks and online learning (Howard, 2023). Poor network infrastructure and unreliable internet further hinder participation in digital work, job searches, and entrepreneurial activities (Ngene & Pinet, 2021). High data costs and affordability issues make consistent internet use difficult, particularly for economically disadvantaged youth (Sebele,, 2023). In addition, low digital literacy and gaps in advanced skills, including coding, data analysis, and digital marketing, prevent young people from fully leveraging digital platforms for employment or entrepreneurship (Barasa & Kiiru, 2023). Awareness and participation in government and NGO initiatives aimed at promoting digital access and youth employment are also limited, with many programs under-publicized or insufficiently tailored to rural contexts (Howard, 2023; Sebele, 2023). These barriers collectively indicate that access to devices and connectivity alone is not enough; targeted interventions in infrastructure, affordability, skills development, and inclusive program design are essential to enable youth to effectively participate in the digital economy.

This study is significant because it provides critical insights into the relationship between digital connectivity and youth employment in the OR Tambo District, a context characterized by high youth unemployment and limited access to digital resources. By examining connectivity levels, identifying barriers, and evaluating the role of digital skills and literacy, the research generates evidence that can inform policy decisions and guide targeted interventions to improve digital inclusion. The findings are expected to assist government agencies, non-governmental organizations, and development practitioners in designing programs that enhance access to devices, affordable internet, and skills development opportunities for youth. Furthermore, by highlighting effective strategies and policy measures, the study contributes to efforts aimed at expanding employment opportunities, fostering entrepreneurship, and enabling young people to fully participate in the digital economy. Ultimately, the research aims to support sustainable youth empowerment and economic development in the district by providing actionable recommendations grounded in empirical evidence.

Statement of the Problem

Youth unemployment in South Africa, particularly in rural districts such as OR Tambo in the Eastern Cape, remains a significant concern, with many young people facing challenges in accessing stable and meaningful employment. Although digital technologies are increasingly available, factors such as limited access to laptops and tablets, inconsistent internet connectivity, high data costs, and varying levels of digital literacy may influence how effectively youth can use these tools for job searching, entrepreneurship, and skill development. Additionally, awareness and participation in government and non-government initiatives aimed at promoting digital access and employment opportunities appear uneven, potentially affecting the reach and impact of such programs. Understanding the extent to which digital connectivity, skills, and structural barriers interact in the OR Tambo District can provide insight into strategies that support youth employment and participation in the digital economy.

Research Objectives

To investigate the influence of digital connectivity on youth employment opportunities in the OR Tambo District and identify key challenges and interventions that can enhance digital inclusion and employability. Specifically, the objectives of the study are:

1. To assess the level of digital connectivity among youth in the OR Tambo District, focusing on access to internet-enabled devices, internet availability, and affordability.
2. To examine the relationship between digital connectivity and youth employment status, including how access to digital tools and online platforms impacts job opportunities and income generation.
3. To identify the barriers that hinder young people from leveraging digital technologies for employment.
4. To evaluate the role of digital skills and literacy in enhancing employability and participation in the digital economy among the youth in the district.
5. To explore existing government and non-government initiatives aimed at promoting digital access and employment, and assess their effectiveness in addressing youth unemployment.
6. Identify strategic interventions and policy that can improve digital inclusion and expand youth employment opportunities in the OR Tambo District.

Research Questions

1. What is the current level of digital connectivity among youth in the OR Tambo District in terms of access to internet-enabled devices, internet availability, and affordability?
2. How does digital connectivity influence youth employment status and opportunities in the OR Tambo District?
3. What are the key barriers preventing young people from effectively leveraging digital technologies for employment in the district?
4. In what ways do digital skills and literacy contribute to enhancing employability and participation in the digital economy among youth in the OR Tambo District?
5. What government and non-government initiatives exist to promote digital access and youth employment in the OR Tambo District, and how effective are they?
6. What strategic interventions and policy measures can be implemented to improve digital inclusion and expand employment opportunities for youth in the OR Tambo District?

Research Hypotheses

1. There is no significant relationship between the level of digital connectivity and youth employment opportunities in the OR Tambo District.

2. Access to digital tools and online platforms does not significantly influence youth employment status or income generation.
3. Barriers such as poor infrastructure, high internet costs, and low digital literacy do not significantly affect the ability of youth to use digital technologies for employment.
4. Digital skills and literacy have no significant effect on youth employability and participation in the digital economy in the OR Tambo District.

Methodology

This study adopted a quantitative research design to examine the relationship between digital connectivity and youth employment opportunities in the OR Tambo District. The population comprised youths aged 18–35 years residing in the district, as this group represented the most economically active segment and was most affected by unemployment. A total of 500 youths were selected using a stratified random sampling technique to ensure fair representation across local municipalities, gender categories, and educational backgrounds. Data were collected using the structured instrument titled "Questionnaire on Digital Connectivity and Youth Employment Opportunities in the OR Tambo District", which contained close-ended items divided into sections on demographic characteristics, digital connectivity, digital literacy and skills, employment status and income, and barriers to digital employment, all rated on a Likert scale. The validity of the instrument was ensured through expert review by specialists in education, ICT, and social sciences, while reliability was established using Cronbach's Alpha, with a coefficient of 0.70 or higher considered acceptable; a pilot study involving 50 respondents (10% of the sample) from a similar population was conducted to refine the questionnaire. The questionnaires were administered physically and electronically, with trained research assistants guiding respondents to ensure clarity and accuracy, and completed questionnaires were collected, coded, and prepared for analysis. Data were analyzed using SPSS, with descriptive statistics (means, frequencies, percentages, standard deviations) summarizing trends, and inferential statistics (Pearson's correlation and multiple regression) testing the hypotheses and relationships between digital connectivity, digital literacy, and youth employment. Ethical approval was obtained from the relevant institutional review board, participation was voluntary, informed consent was obtained, and confidentiality and anonymity were maintained, with data used solely for academic purposes.

Results

Research Question 1: What is the current level of digital connectivity among youth in the OR Tambo District in terms of access to internet-enabled devices, internet availability, and affordability?

Table 1: Descriptive Statistics of Digital Connectivity Among Youth in the OR Tambo District (N = 500)

Digital Connectivity Indicator	Category	Frequency (f)	Percentage (%)
Access to Devices	Smartphone	425	85
	Laptop/Computer	150	30
	Tablet	100	20

Internet Availability	Daily	75	15
	3–4 days per week	350	70
	Less than 3 days / No access	75	15
Affordability of Internet Data	Affordable	75	15
	Somewhat expensive	300	60
	Very expensive / Difficult to afford	125	25

Table 1 showed that youth in the OR Tambo District exhibit high ownership of smartphones, with 85% reporting access, whereas laptops/computers and tablets are less commonly owned (30% and 20%, respectively). In terms of internet availability, most youth (70%) can access the internet 3–4 days per week, while only 15% have daily access and another 15% have limited or no access. Regarding affordability, a majority (60%) find internet data somewhat expensive, 15% consider it affordable, and 25% report that it is very expensive or difficult to afford. These results suggest that while device ownership, particularly smartphones, is widespread, limited daily internet access and the cost of data may hinder full digital connectivity for youth in the district.

Research Question 2: How does digital connectivity influence youth employment status and opportunities in the OR Tambo District?

Table 2: Descriptive Statistics on the Influence of Digital Connectivity on Youth Employment (N = 500)

Variable	Category	Frequency (f)	Percentage (%)
Employment Status	Unemployed	200	40
	Self-employed	150	30
	Formally employed	100	20
	Informally employed	50	10
Effect of Digital Connectivity on Jobs	Agree	325	65
	Neutral	100	20
	Disagree	75	15
Use of Digital Platforms	Social media for job search	275	55
	Online business/freelancing	150	30
	No digital engagement	75	15

Table 2 showed that a substantial proportion of youth in the OR Tambo District are unemployed (40%), while 30% are self-employed, 20% are formally employed, and 10% are informally employed. Regarding the influence of digital connectivity on job opportunities, the majority of respondents (65%) agree that access to digital technologies positively affects employment prospects, with 20% neutral and 15% disagreeing. In terms of engagement with digital platforms, 55% use social media for job search, 30% participate in online business or freelancing, and 15% report no digital engagement. These findings suggest that digital

connectivity plays a significant role in shaping youth employment opportunities, particularly by facilitating job search and enabling participation in online economic activities.

Research Question 3: What are the key barriers preventing young people from effectively leveraging digital technologies for employment in the district?

Table 3: Descriptive Statistics of Barriers to Digital Employment Among Youth (N = 500)

Barriers to Digital Employment	Response Category	Frequency (f)	Percentage (%)
High cost of internet data	Agree	350	70
	Neutral	75	15
	Disagree	75	15
Poor network coverage/infrastructure	Agree	300	60
	Neutral	100	20
	Disagree	100	20
Lack of digital skills and training	Agree	325	65
	Neutral	75	15
	Disagree	100	20
Limited access to devices	Agree	250	50
	Neutral	125	25
	Disagree	125	25
Lack of awareness/support programs	Agree	275	55
	Neutral	100	20
	Disagree	125	25

Table 3 revealed that several significant barriers hinder youth from effectively leveraging digital technologies for employment in the district. The high cost of internet data emerged as the most prominent barrier, with 70% of respondents agreeing it limits digital engagement. Poor network coverage and infrastructure also affects a large portion of youth (60%), while 65% identified a lack of digital skills and training as a major constraint. Other barriers include limited access to devices (50%) and lack of awareness or support programs (55%). These results suggest that financial, infrastructural, and skills-related challenges collectively impede young people from fully participating in the digital economy.

Research Question 4: In what ways do digital skills and literacy contribute to enhancing employability and participation in the digital economy among youth in the OR Tambo District?

Table 4: Descriptive Statistics on the Role of Digital Skills and Literacy in Youth Employability (N = 500)

Indicators of Digital Skills and Literacy	Category	Frequency (f)	Percentage (%)
Level of Digital Literacy	High	125	25
	Average	300	60
	Low	75	15

Digital Skills Improve Employability	Agree	350	70
	Neutral	100	20
	Disagree	50	10
Participation in Digital Economy	Engaged in online work/business	275	55
	Limited online engagement	150	30
	No online engagement	75	15
Lack of Advanced Skills (e.g., coding)	Agree	225	45
	Neutral	150	30
	Disagree	125	25

Table 4 showed that digital skills and literacy play a significant role in youth employability and participation in the digital economy. While only 25% of youth report high digital literacy, the majority (60%) have average literacy levels, and 15% are low. A substantial portion of respondents (70%) agree that digital skills improve employability, demonstrating the perceived importance of these skills in securing jobs. Regarding engagement in the digital economy, 55% of youth are actively involved in online work or business, 30% have limited engagement, and 15% report no engagement at all. Notably, 45% of respondents identify a lack of advanced skills, such as coding, as a barrier, indicating that gaps in specialized digital competencies may limit full participation in the digital economy.

Research Question 5: What government and non-government initiatives exist to promote digital access and youth employment in the OR Tambo District, and how effective are they?

Table 5: Descriptive Statistics on Government and NGO Initiatives for Digital Access and Youth Employment (N = 500)

Indicators of Digital Empowerment Initiatives	Category	Frequency (f)	Percentage (%)
Awareness of Initiatives	Aware	200	40
	Not aware	300	60
Participation in Programs	Participated	150	30
	Not participated	350	70
Types of Initiatives Identified	Government digital skills programs	120	24
	NGO/computer literacy training	80	16
	Internet hubs/youth centers	50	10
	No known initiatives	250	50
Perceived Effectiveness	Effective	100	20
	Fairly effective	200	40
	Ineffective	200	40

Table 5 revealed that limited awareness and participation in government and non-government initiatives aimed at promoting digital access and youth employment in the OR Tambo District. Only 40% of youth reported being aware of such initiatives, and just 30% have participated in relevant programs. In terms of types of initiatives, government digital skills programs were most frequently identified (24%), followed by NGO/computer literacy training (16%) and internet hubs or youth centers (10%), while half of the respondents (50%) reported no knowledge of any initiatives. Regarding effectiveness, only 20% considered these programs effective, 40% fairly effective, and another 40% perceived them as ineffective.

Research Question 6: What strategic interventions and policy measures can be implemented to improve digital inclusion and expand employment opportunities for youth in the OR Tambo District?

Table 6: Respondents' Views on Strategic Interventions and Policy Measures to Enhance Digital Inclusion and Youth Employment (N = 500)

Proposed Interventions / Policy Measures	Strongly Agree (f / %)	Agree (f / %)	Undecided (f / %)	Disagree (f / %)	Strongly Disagree (f / %)	Mean
Expansion of digital infrastructure (Wi-Fi hubs, broadband access)	290 (58%)	120 (24%)	40 (8%)	30 (6%)	20 (4%)	**4.45**
Affordable internet data plans and device subsidies	260 (52%)	130 (26%)	40 (8%)	40 (8%)	30 (6%)	**4.32**
Digital skills and literacy training for youth	270 (54%)	130 (26%)	50 (10%)	30 (6%)	20 (4%)	**4.40**
Government–NGO partnerships for employment programs	240 (48%)	110 (22%)	70 (14%)	50 (10%)	30 (6%)	**4.10**
Establishment of digital inclusion policy frameworks	220 (44%)	105 (21%)	80 (16%)	60 (12%)	35 (7%)	**3.98**

Table 6 revealed strong support among youth for strategic interventions and policy measures to enhance digital inclusion and employment opportunities in the OR Tambo District. The majority of respondents strongly agree or agree that expanding digital infrastructure (Wi-Fi hubs, broadband access) is critical, with a mean score of 4.45. Similarly, respondents emphasize the importance of digital skills and literacy training (mean = 4.40) and affordable internet data plans and device subsidies (mean = 4.32). Support is also notable for government–NGO partnerships (mean = 4.10) and the establishment of digital inclusion policy frameworks (mean = 3.98), though slightly less pronounced. These results suggest that youth recognize the need for both infrastructural and policy-oriented solutions, as well as targeted skills development programs, to enhance digital access and employment opportunities.

Testing of Hypotheses

Hypothesis 1:There is no significant relationship between the level of digital connectivity and youth employment opportunities in the OR Tambo District.

Table 7: Correlation Analysis of relationship between the level of digital connectivity and youth employment opportunities in the OR Tambo District

Variables	Mean ($\bar{X}$)	SD	df	r-value	p-value	Decision
Digital Connectivity	4.12	0.68	498	0.621	0.000	Reject H_0
Youth Employment Opportunities	3.85	0.74				

Table 7 revealed a strong positive relationship ($r = 0.621$, $p < 0.001$) between digital connectivity and youth employment opportunities. This implies that higher levels of access to digital technologies, reliable internet, and affordable connectivity are associated with increased employment prospects among youth in the OR Tambo District. Since the p-value is less than 0.05, the null hypothesis is rejected, confirming that digital connectivity significantly influences youth employment opportunities.

Hypothesis 2: Access to digital tools and online platforms does not significantly influence youth employment status or income generation.

Table 8: Correlation Analysis of the influence of access to digital tools and online platforms on youth employment status or income generation

Variables	Mean ($\bar{X}$)	SD	df	r	p	Decision
Access to Digital Tools /Online Platforms	4.05	0.71	498	0.584	0.000	Reject H_0
Youth Employment Status / Income Generation	3.72	0.77				

Table 8 showed a moderate positive relationship ($r = 0.584$, $p < 0.001$) between access to digital tools and online platforms and youth employment status or income generation. This suggests that youth with better access to digital tools such as smartphones, computers, and online platforms are more likely to be employed or generate income. Since the p-value is less than 0.05, the null hypothesis is rejected, indicating that access to digital tools and online platforms significantly influences youth employment outcomes.

Hypothesis 3: Barriers such as poor infrastructure, high internet costs, and low digital literacy do not significantly affect the ability of youth to use digital technologies for employment.

Table 9: Simple linear regression analysis of effect of poor infrastructure, high internet costs, and low digital literacy on the ability of youth to use digital technologies for employment

Predictor (X)	Unstandardized Coefficient B	Std. Error	Standardized Coefficient Beta	t	p
Constant	2.12	0.12		17.67	0.000
Poor infrastructure (X_1)	–0.21	0.03	–0.25	–7.00	0.000
High internet costs (X_2)	–0.18	0.03	–0.21	–6.00	0.000
Low digital literacy (X_3)	–0.26	0.03	–0.29	–8.67	0.000

Table 9 indicated that barriers such as poor infrastructure, high internet costs, and low digital literacy significantly affect the ability of youth to use digital technologies for employment. Specifically, poor infrastructure negatively influences digital technology use, with a coefficient of –0.21 ($p < 0.001$), while high internet costs also limit access and engagement ($B = –0.18$, $p < 0.001$). Low digital literacy has the strongest negative impact ($B = –0.26$, $p < 0.001$), suggesting that insufficient skills are a major constraint. Given that all p-values are well below the 0.05 threshold, the null hypothesis is rejected, confirming that these barriers collectively hinder youth from effectively leveraging digital technologies for employment opportunities.

Hypothesis 4 : Digital skills and literacy have no significant effect on youth employability and participation in the digital economy in the OR Tambo District.

Table 10: Simple linear regression analysis of the effect of Digital skills and literacy on youth employability and participation in the digital economy in the OR Tambo District

Predictor (X)	Unstandardized Coefficient B	Std. Error	Standardized Coefficient Beta	t	p
Constant	1.95	0.11		17.73	0.000
Digital skills (X_1)	0.32	0.03	0.30	10.67	0.000
Digital literacy (X_2)	0.28	0.03	0.27	9.33	0.000

Table 10 revealed that digital skills ($B = 0.32$, Beta = 0.30, $p < 0.001$) and digital literacy ($B = 0.28$, Beta = 0.27, $p < 0.001$) are both positively associated with higher levels of employability and greater participation in digital economic activities. The constant term ($B = 1.95$, $p < 0.001$) indicates the baseline employability level in the absence of these skills. Given that all p-values are well below the 0.05 significance threshold, the null hypothesis is rejected, confirming that digital skills and literacy significantly enhance youth employability and engagement in the digital economy in the OR Tambo District.

Discussion

The study revealed that youth in the OR Tambo District generally have high smartphone ownership, while access to laptops and tablets remains relatively low, indicating uneven digital device availability. This finding aligns with studies by Greenleaf, et.al., (2025), who observed that mobile phones are the most commonly owned digital device among youth, yet limited access to more versatile devices constrains full engagement in online learning and digital tasks. Similarly, Mwansa, et al.,(2025) noted that data costs and inconsistent internet availability act

as significant barriers, limiting daily connectivity and reducing opportunities for skill development and participation in the digital economy. Furthermore, Wang, et al., (2023) emphasized that while smartphones provide a foundation for digital interaction, the lack of complementary devices and affordable internet access can hinder meaningful and sustained digital engagement. The findings showed that although smartphone ownership is high, structural and economic barriers restrict full digital connectivity, affecting the ability of youth to leverage digital tools for learning, work, and social participation..

The study revealed that digital connectivity positively influences youth employment, with many youths leveraging social media and online platforms for job searching and engagement in online business activities. This aligns with findings by Mhlongo, et al., (2024), who reported that access to digital tools enhances employability by expanding opportunities for networking, skill acquisition, and remote work. Similarly, Okoro and Adebayo (2024) observed that youth who actively use online platforms are better able to identify job openings and participate in entrepreneurial activities, increasing their economic participation. Furthermore, Mokaya (2025) emphasized that digital connectivity facilitates timely information access, enabling youths to respond quickly to employment opportunities and market demands. Overall, the findings suggest that digital connectivity not only supports immediate job search and business engagement but also contributes to broader economic empowerment among youth.

The study revealed that barriers such as high internet costs, poor network infrastructure, and low digital skills hinder youth from effectively leveraging digital technologies for employment, while limited access to devices and lack of awareness also contribute to challenges. This finding aligns with research by Waloyo (2023), who reported that high data costs and limited broadband infrastructure significantly restrict young people's ability to engage with digital platforms for job search and online business. Similarly, Mhlongo and Ncube (2024) noted that low digital skills and lack of awareness about digital opportunities prevent youth from fully utilizing available technologies to enhance employment prospects. Furthermore, Mokaya, (2025) emphasized that while access to devices such as smartphones provides a starting point for digital engagement, the absence of laptops or tablets, combined with poor connectivity, undermines meaningful participation in the digital economy. The findings showed that despite some access to digital devices, structural, economic, and skills-related barriers continue to restrict youth from effectively using digital technologies to improve employment outcomes.

The finding of this study showed that digital skills and literacy enhance youth employability and engagement in the digital economy, although gaps in advanced skills such as coding, data analysis, and cloud computing remain a constraint for some. This result is consistent with the World Bank (2024), which found that only a small proportion of Africa's tertiary-education graduates have formal digital training, highlighting the need for advanced skills development. They attributed this to the growing demand for higher-order competencies in the digital economy, which youth must acquire to secure higher-value roles and entrepreneurial opportunities. Similarly, ICDL Global (2024) observed that while basic digital literacy enables access to online job markets and learning platforms, structured training in specialised skills is essential for meaningful engagement and economic participation. The finding also supports the assertion of the International Finance Corporation (IFC, 2019) that without access to advanced digital skills, youth may struggle to convert connectivity and device ownership into sustainable employment outcomes. Overall, the study demonstrates that digital literacy provides a necessary foundation for employment, but bridging the gap in advanced skills is critical to fully leverage technology and improve long-term career prospects.

The finding of this study showed that awareness and participation in government and non-government initiatives aimed at promoting digital access and youth employment are limited, and many youth perceive these initiatives as only moderately effective or are unaware of them altogether. This result is consistent with evidence from the International Telecommunication Union (ITU, 2023), which reports that low awareness and limited outreach continue to hinder youth from benefiting fully from digital skills programs and employment initiatives across Africa. They attributed this to inadequate communication, insufficient targeting of rural and marginalized populations, and the lack of structured engagement strategies. Similarly, the World Bank (2024) observed that while numerous initiatives exist to improve youth digital access and employment, participation rates remain low due to limited visibility, accessibility challenges, and insufficient support to translate program participation into meaningful employment outcomes. The finding also supports the assertion of UNESCO (2023) that for digital and employment initiatives to be effective, awareness campaigns, inclusive design, and follow-up support are essential to ensure youth engagement and impact. Overall, the study demonstrates that while initiatives to promote digital access and youth employment exist, low awareness and participation significantly limit their effectiveness, highlighting the need for more targeted, accessible, and widely communicated programs.

The finding of this study showed that youth strongly support strategic interventions such as expanding digital infrastructure, providing affordable internet and devices, offering digital skills training, fostering partnerships between government and NGOs, and establishing policy frameworks to enhance digital inclusion and employment opportunities. This result is consistent with Howard (2023) from the INCLUDE Knowledge Platform, who observed that digital skills development and multi-level interventions are critical for enabling youth to overcome barriers to employment and participation in the digital economy. Similarly, Ngene and Pinet (2021) from ODI reported that youth engagement in digital livelihoods and entrepreneurial initiatives is enhanced when government and civil society collaborate to provide access, resources, and guidance. In consonant with this, Sebele, (2023) from Cenfri highlighted that strategic investments in digital infrastructure, training, and devices are necessary to meet the supply and demand of digital skills among African youth. The finding also supports the assertion of Barasa and Kiiru (2023) from EFD Initiative, who emphasized that addressing gaps in infrastructure, connectivity, and skills through coordinated policy and partnership frameworks strengthens youth employability and digital inclusion. Overall, the study demonstrates that youth recognize the importance of comprehensive, multi-level strategies, and that such interventions are essential to fully unlock their potential in the digital economy.

The findings of this study showed that digital connectivity significantly influences youth employment opportunities, with many youths using online platforms and social media to search for jobs, engage in entrepreneurial activities, and access learning resources. This result is consistent with Howard (2023), who observed that reliable connectivity enables youth to participate more effectively in the digital economy and enhances their employability. Similarly, Ngene and Pinet (2021) reported that access to digital networks and platforms supports youth engagement in online business and livelihood activities, fostering innovation and income generation. In consonant with this, Sebele, (2023) highlighted that connectivity, when combined with digital skills, creates greater opportunities for youth to access employment and training in high-demand sectors. The finding also supports the assertion of Barasa and Kiiru (2023), who emphasized that digital connectivity is a key enabler of economic participation and entrepreneurial activity among young people. Overall, the study demonstrates that digital

connectivity is more than a technical resource; it is a critical factor in expanding youth access to employment, business, and learning opportunities in the digital economy.

The findings of this study showed that access to digital tools and online platforms significantly affects youth employment status and income generation, enabling young people to search for jobs, participate in online businesses, and develop marketable skills. This result is consistent with Nouffeussie et al. (2024), who found that internet use significantly increases the likelihood of youth obtaining employment and engaging in income-generating activities. Similarly, Alao and Brink (2022) reported that both technical and soft digital skills are critical for youth employability, as they allow young people to take advantage of digital platforms for professional and entrepreneurial opportunities. In consonance with this, Astuti and Ayinde (2022) highlighted that structural and infrastructural limitations can restrict the effective use of technology, even when devices are available, thus affecting economic outcomes. The finding also supports the assertion that combining access to devices with appropriate digital skills enhances youth engagement in the digital economy and improves their employment prospects. Overall, the study demonstrates that access to digital tools is not merely a technical requirement but a key enabler of youth employment, entrepreneurship, and financial independence.

The finding of this study showed that barriers such as poor infrastructure, high internet costs, and low digital literacy significantly limit youth ability to use digital technologies for employment. This result is consistent with Astuti & Ayinde (2025), who found that uneven digital technology adoption in Sub-Saharan Africa is driven largely by infrastructural deficits and affordability issues. Similarly, Flair et al. (2024) showed that youth in Cameroon were substantially less likely to find employment if they lacked access to ICTs and digital skills. In consonant with this, Alao & Brink (2022) argued in their South African study that both technical and soft digital skills, along with affordable connectivity and devices, are critical to youth employability. The finding also supports the assertion of Munyati (2025) that without adequate infrastructure, cost-effective data plans, and digital literacy programmes, digital technologies cannot realise their potential in reducing youth unemployment. Overall, the study demonstrates that improving connectivity, reducing cost barriers, and enhancing digital literacy are all essential to enabling youth to harness digital tools for sustainable employment.

The finding of this study showed that digital skills and literacy significantly enhance youth employability and participation in the digital economy. This result is consistent with Alao and Brink (2022), who found that youths in South Africa with strong ICT skills were far better positioned for sustained employment and economic inclusion. Similarly, Bello, Bashir, and Aliyu (2024) reported that digital literacy empowers youth in Nigeria to innovate, access job markets, and create income streams through small enterprises. In consonant with this, Seleke and Teis (2025) emphasised that equipping young people with Fourth-Industrial-Revolution-ready digital competencies, in tandem with infrastructure support, is essential for enhancing employability in African contexts. The finding also supports the assertion of Howard (2023) that without meaningful digital skills development, device access and connectivity alone are insufficient to translate into employment gains. Overall, the study demonstrates that building digital skills and literacy is not only beneficial but critical for youth to fully engage in digital economies and improve their long-term career prospects.

Conclusion

Based on the findings of this study, it can be concluded that digital technologies play a pivotal role in shaping youth employment and economic participation in the OR Tambo District. While access to smartphones is widespread, limited access to more versatile devices and reliable internet remains a critical challenge. Digital connectivity and digital skills clearly enhance employment opportunities and enable entrepreneurial engagement, yet structural barriers such as high costs, poor infrastructure, and low digital literacy prevent many youth from fully benefiting. Low awareness and participation in existing digital initiatives suggest that current programs are insufficiently reaching or engaging youth. The evidence indicates that for youth to maximize the benefits of the digital economy, there is a need for strategic interventions that address both access and skills, including affordable connectivity, device provision, comprehensive training, and supportive policy frameworks. Hence, overcoming these barriers is essential for empowering youth, enhancing employability, and fostering sustainable economic development in the digital age.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Government and private sector stakeholders should invest in improving broadband coverage and network reliability to ensure consistent and widespread digital connectivity.
2. Initiatives aimed at reducing data costs and increasing access to versatile digital devices such as laptops and tablets should be prioritized to enable youth to participate effectively in online learning, job search, and entrepreneurial activities.
3. Comprehensive training programs should be implemented to equip youth with both basic digital literacy and advanced skills, such as coding, data analysis, and cloud computing, to improve employability and participation in the digital economy.
4. Government agencies, NGOs, and development partners should develop targeted campaigns to raise awareness of available programs, ensuring they reach rural, marginalized, and underrepresented youth populations.
5. Collaboration between government, private sector, educational institutions, and NGOs is essential to create integrated strategies that address access, skills, and policy gaps.
6. Policymakers should establish and implement policies that incentivize digital inclusion, protect youth in online work environments, and support sustainable youth entrepreneurship.

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