Journal of Information Systems and Informatics
Vol. 7, No. 3, September 2025 e-ISSN: 2656-4882 p-ISSN: 2656-5935
DOI: 10.51519/journalisi.v7i3.1165 Published By DRPM-UBD

The Future of Work: Digitalisation of Sub-Saharan Africa Labour Markets

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Abstract

Digital transformation is reshaping global operations by integrating technology into business, fundamentally changing how value is delivered. In Sub-Saharan Africa, this shift is altering work processes and job content, impacting the demand for skills and leading to the displacement of certain roles across all industries. Understanding the effects of digital technologies on the future of work in the region is essential for developing effective strategies. It is important to recognise how these changes will affect labour markets and workers' ability to transition to new opportunities. While technology can create new paths and improve access, it also exacerbates existing inequalities. This study aimed to explore the challenges shaping the future of work in Sub-Saharan Africa. A qualitative research approach and inductive thematic analysis were utilised for this study. The findings highlight that the major challenges affecting the future of work are digital skills, followed by Diversity, equity and inclusion- digital divide, gender inequality and discrimination and lack of DEI initiatives and finally, workforce- unemployment and inadequately skilled workforce. In conclusion, while the future of work in Africa presents significant challenges, it also offers great promise. Realising this potential depends on bold and proactive decisions by policymakers, educational institutions, and businesses. Strategic investments made today can empower the next generation of African workers, innovators, and entrepreneurs to thrive in an increasingly digital and competitive global economy.

Keywords: Digital transformation; Diversity, Equity and Inclusion (DEI); Human Resource Management; Organisational sustainability, Sustainable Development Goals (SDG).

1. INTRODUCTION

Labour markets have been undergoing significant transformations driven by rapid technological advancements, most notably the rise of generative artificial intelligence (AI), alongside ongoing economic volatility, geopolitical tensions, and escalating social and environmental challenges. These shifts have intensified the demand for more agile and effective mechanisms for job reallocation, both within and across sectors and organisations [1]. This evolving landscape presents a generational opportunity for policymakers and business leaders to reimagine the

future of work in ways that promote economic inclusion and opportunity. By adopting forward-thinking policies and leveraging technology strategically, stakeholders can influence not only the pace of economic growth but also its direction, shaping economies that are more inclusive, resilient, and sustainable [1]. As digital technologies continue to redefine the nature of work, the topic remains a central concern for researchers and decision-makers alike. While technology offers immense potential to unlock new opportunities and broaden access to resources, it also carries the risk of exacerbating existing inequalities and reinforcing systemic biases if not managed responsibly [2].

The [3] emphasised that, in the long term, some of the most significant benefits of information and communication technology (ICT)-intensive jobs in Africa are expected to emerge in areas such as digital design, creation, and engineering. In response, organisations across the African workplace are increasingly adopting technology to drive digital transformation, streamlining existing operations, digitising traditional processes, and developing innovative digital models. These initiatives aim to improve efficiency, foster innovation, and position organisations for the demands of the digital economy. Despite these advancements, Sub-Saharan Africa lags in key areas, particularly in implementing diversity, equity, and inclusion (DEI) strategies [4]. Although digital transformation holds promise, the region faces persistent challenges related to the future of work. There is a need to understand how digital transformation affects the future of work in Sub-Saharan Africa [3]. Sub-Saharan Africa faces unique barriers in accessing technological advancements to be able to participate in and benefit from the Fourth Industrial Revolution [2], limiting the inclusive potential of digital progress.

The future of work globally has been significantly influenced by the rapid advancement of digital technologies. In sub-Saharan Africa, digital transformation presents substantial opportunities; however, the adoption of these technologies remains relatively low compared to other regions worldwide [3]. This region is characterised by a unique environment shaped by its diverse cultures, economic conditions, and technological frameworks. Consequently, the future of work in sub-Saharan Africa is expected to evolve differently from that in other areas due to its specific socioeconomic and technological landscape. Understanding the development of digital technologies in this context is crucial for shaping the future of work and serves as a foundation for digital transformation in organisations across Africa [4]. With ongoing technological advancements and an increasing reliance on digital platforms in sub-Saharan Africa, it is important to explore what the future of work entails. Identifying the challenges of the future of work associated with digital transformation is essential for succeeding in a digital economy within this region [3]. This reality highlights the critical issue of how Sub-Saharan Africa can effectively prepare for the future of work and ensure that its labour force is equipped to benefit from ongoing technological and economic

p-ISSN: **2656-5935** http://journal-isi.org/index.php/isi e-ISSN: **2656-4882**

shifts. Therefore, this research intends to answer the following question "What are the challenges shaping the future of work in the digital Sub-Saharan African labour market?".

2. RESEARCH METHODOLOGY

This conceptual study employed a qualitative research methodology to explore and deepen the understanding of the challenges associated with the future of work in Sub-Saharan Africa. Qualitative methods were deemed appropriate, as they align with the nature of conceptual research, which often involves developing theoretical insights through the analysis of secondary data [5]. The study focused on examining key issues and dynamics shaping the future of work in the region. [6] defined secondary data as information collected initially by sources other than the researcher as the primary data set. This included official reports, academic literature, and government statistics [7], which were critically analysed to uncover emerging trends and challenges impacting the workforce in Sub-Saharan Africa.

Given the extensive scope of the investigation, it was considered appropriate to rely on secondary data from trusted sources for the essential context, the Sub-Saharan African context, to address the research objective and answer the research questions. [7] Observed that leveraging pre-existing data can offer advantages over collecting new information, which is often resource-intensive. The secondary data analysis went through three critical stages: planning the analysis, executing the review, and documenting the results. The research was methodically prepared and executed in each phase of this process by systematically identifying, evaluating, and synthesising research articles, reports, papers, and documents that discuss challenges shaping the future of work in a Sub-Saharan African context.

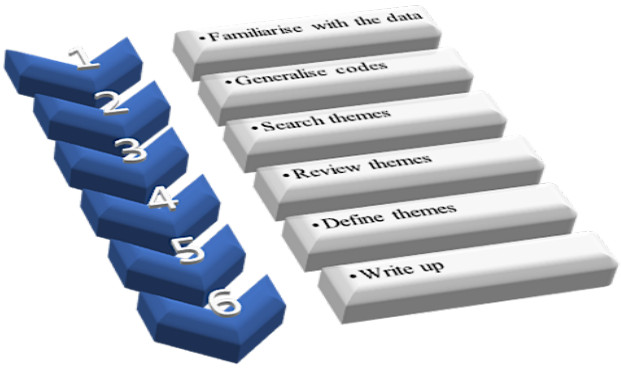

Figure 1. Braun & Clarke's thematic analysis framework

Data analysis involves key steps such as cleaning, adjusting, and reviewing data to make predictions, extract insights, and support decision-making [8]. A thematic

analysis was applied in this study to explore existing data and identify challenges impacting the future of work in Sub-Saharan Africa. An inductive thematic analysis is crucial for recognising and interpreting significant themes [9], evaluating reports, articles, and documents related to this topic [10]. To ensure the data analysis remains dependable and credible, we utilised the inductive thematic analysis framework from Braun and Clarke (2006), as shown in Figure 1.

In addition, an inductive thematic analysis was applied to analyse secondary data sources from academic journals, government publications, and industry reports to interpret the data. [11] suggested utilising an inductive thematic analysis method to identify emerging themes, which would support a thorough exploration of the challenges shaping the future of work in Sub-Saharan Africa. In line with our study's objective, an inductive thematic analysis was conducted to scrutinise data from various sources, including international development reports, academic publications, reports from African governments, and industry documents. This method enhances the transferability, confirmability, dependability, and credibility of the findings. It's essential to note that a "theme" goes beyond merely spotting coherent patterns or meanings in the data; it should also deliver valuable insights that align with the research aims. The analysis was directed by the research objective, concentrating on the challenges shaping the future of work in Sub-Saharan Africa in the digital era. Figure 2 illustrates the identified themes and sub-themes, emphasising their link to the experiences of African women. The inductive thematic approach effectively fulfilled the research objective by meticulously analysing written data to categorise the themes and sub-themes, thus shedding light on the challenges affecting the future of work in Sub-Saharan Africa from a digital viewpoint. The inductive thematic method effectively addressed the research objective by comprehensively answering the research question.

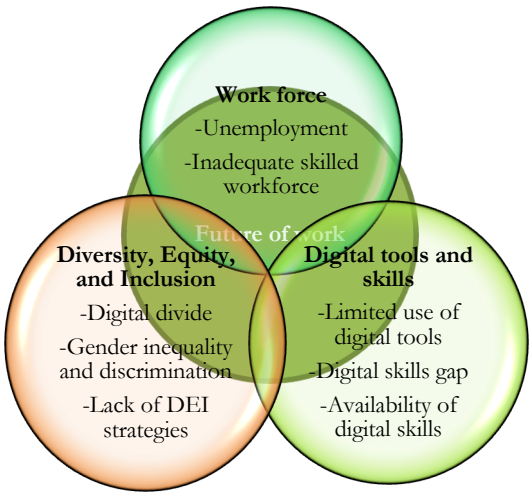

Figure 2. Themes and sub-themes on the challenges to the future of work

3. RESULTS AND DISCUSSION

3.1. Digital tools and skills

1) Limited use of digital technologies

One of the most pressing challenges facing the future of work in Sub-Saharan Africa is the region's limited use of digital technologies. Both households and enterprises require improved access to digital tools, greater affordability, and a stronger inclination to use these technologies for productive purposes. Despite notable progress in infrastructure, digital adoption remains alarmingly low. According to [12], as of the end of 2022, approximately 84% of the population in Sub-Saharan Africa lived in areas with mobile internet coverage. However, only 22% of the population actively used these services, marking the lowest usage rate globally, as shown in Figure 3. Digitalisation remains weak across the region, and small and medium-sized enterprises (SMEs) in Sub-Saharan Africa often pay disproportionately more for mobile data than their counterparts in other regions. Furthermore, as shown in the Figure 4, around 70% of surveyed microenterprises did not see the need for internet-enabled technologies to support their operations, reflecting both a lack of awareness and a limited digital mindset [12].

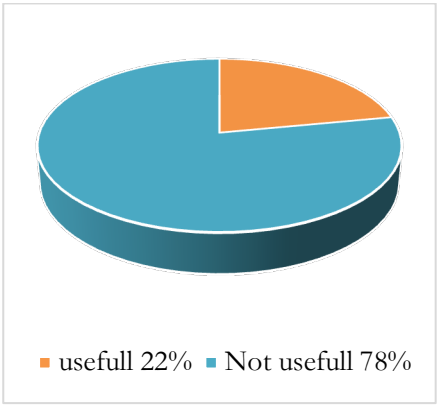

Figure 3. Household usefulness of internet-enabled technologies

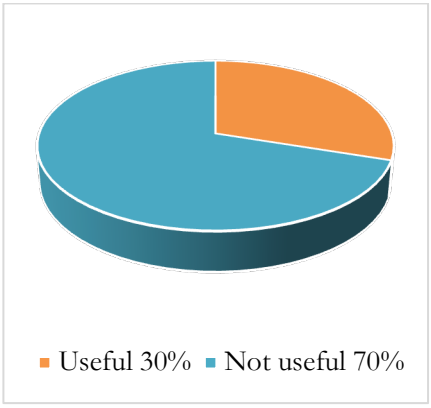

Figure 4. Microenterprises usefulness of internet-enabled technologies

2) Digital skills gap

As the skills landscape evolves to align with the demands of the future of work, organisations in Sub-Saharan Africa are increasingly challenged with designing and scaling practical training and development programmes. The persistent digital skills gap is one of the most pressing barriers to transformation in the region's labour

market. Investing in continuous learning and on-the-job training has emerged as the most promising strategy for building a sustainable and future-ready workforce [1]. Over the next five years, developing and implementing robust reskilling and upskilling strategies will be critical to enhancing organisational performance and ensuring alignment with the shifting demands of the digital economy. Organisations across the region consistently identify digital skills shortages and difficulties in attracting qualified talent as key obstacles to digital transformation. These talent-related challenges are often viewed as more strategically limiting than access to capital. In fact, across nearly all industries, companies in Sub-Saharan Africa report that digital skills gaps pose a more significant barrier to transformation than a lack of investment funding. This issue is particularly acute at the regional and national levels, where disparities are more pronounced. According to [1], 70% of companies in Sub-Saharan Africa cite digital skills gaps as a significant impediment to their transformation efforts, making it the region with the highest reported impact of skills shortages on business progress, as shown in Figure 5.

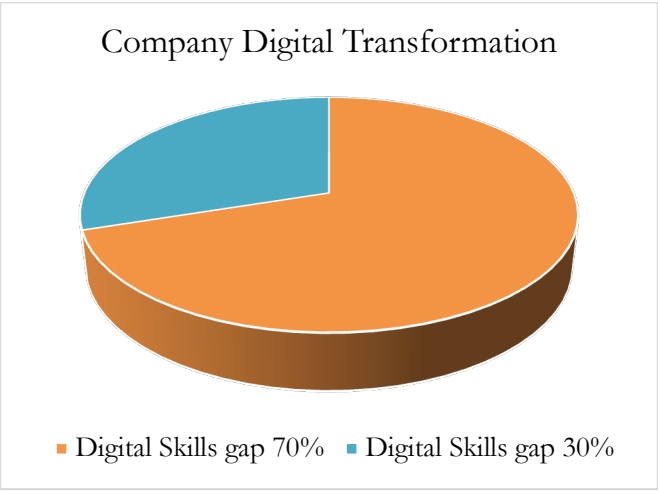

Figure 5. Digital skills gap

3) Availability of digital skills

The [13] report shown in Figure 6, indicates the region achieves only about 50% of the global average in digital-skill penetration, with many countries failing to reach 30% in Sub-Saharan Africa. Further, only about 4% of the Sub-Saharan African workforce has adequate digital competencies, highlighting a critical gap that must be addressed to support digital transformation and economic growth across the region. The availability of digital skills presents a significant challenge across Sub-Saharan Africa, with notable disparities among countries in the region.

the distribution of digital skills remains uneven across the region. Some countries are significantly behind in developing the digital capabilities required for economic transformation. Interestingly, countries with higher levels of digital skills penetration also tend to exhibit greater diversity in the types of digital skills available. South Africa, Kenya, and Nigeria stand out for having comparatively higher levels of digital proficiency, supported by more established tech hubs and stronger demand for technical skills [14]. These countries are often recognised as regional leaders in digital capability and innovation ecosystems. However, in most other Sub-Saharan African nations, digital skills remain underdeveloped. These insights into the digital skills landscape across Sub-Saharan Africa could be instrumental in designing more targeted and effective digital skills training and technology adoption programmes, tailored to the specific needs and gaps within individual countries.

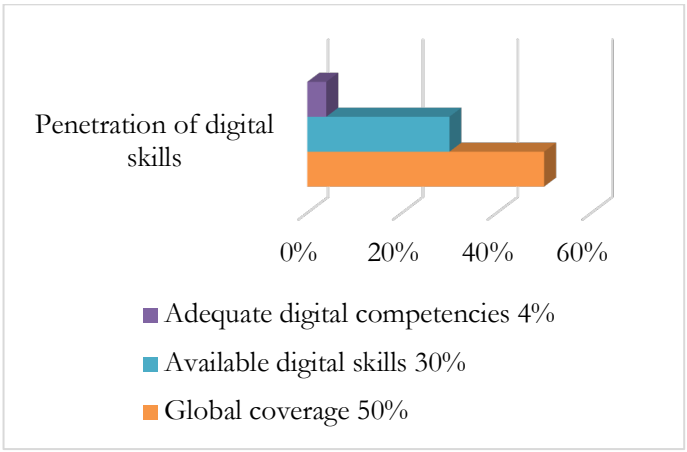

Figure 6. Availability of digital skills

3.2. Diversity, equity and inclusion

1) Digital divide

The digital divide is a significant global issue, but it is especially severe in Sub-Saharan Africa, where only 28% of the population has internet access, as shown in the Figure 7. This limited access to digital technologies has a profound impact on the future job market in the region, as the demand for digital skills continues to grow [3]. One of the most significant challenges to the future of work is the digital divide in Sub-Saharan Africa. The digital divide, referring to the disparities in access to digital technologies and internet connectivity, is especially pronounced among individuals in rural and economically disadvantaged areas of Sub-Saharan Africa [2]. This gap presents a significant barrier to women's full participation in the future of work. Limited digital access and inadequate digital literacy severely

constrain women's ability to engage with emerging technologies associated with the future of work in Sub-Saharan Africa.

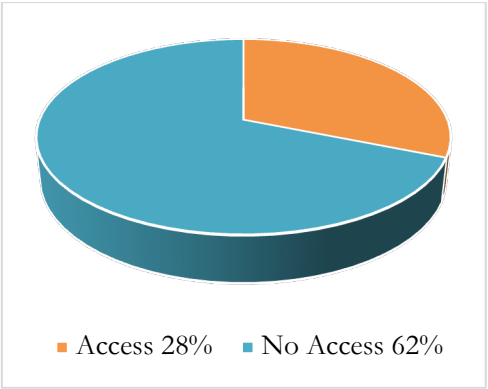

Figure 7. Access to the Internet

Poverty is a contributing factor to the digital divide and a significant barrier to digital inclusion in Sub-Saharan Africa. As shown in Figure 8, approximately 40% of Africans live below the global extreme poverty line, making the cost of even basic mobile data plans equivalent to nearly one-third of their income. Only about 5% of these households have internet access [12]. This highlights a substantial affordability gap that excludes millions from the digital economy. In addition to cost barriers, poor internet infrastructure and substandard service quality further constrain digital adoption. While mobile internet availability has improved across the region, Sub-Saharan Africa continues to lag behind other parts of the world in terms of service reliability and infrastructure resilience. These deficiencies not only hinder individuals' and organisations' ability to engage with digital tools but also threaten the sustainability and competitiveness of businesses in an increasingly digital global economy. Addressing these digital divides is critical for unlocking the region's potential in the future of work and ensuring inclusive, technology-driven growth.

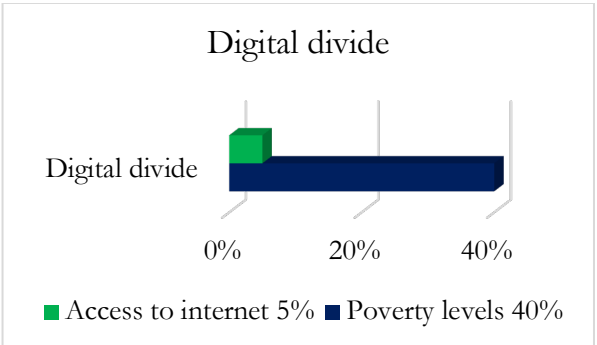

Figure 8. Internet affordability

In an era where digital competence is increasingly essential for social and economic inclusion, women without access to digital tools and skills risk falling further behind. This divide is shaped by socio-economic barriers, weak infrastructure, and deep-seated cultural norms that often prioritise men's access to technology over women's [2]. In many underserved regions, internet connectivity and access to digital devices remain scarce, further entrenching digital exclusion in Sub-Saharan Africa. This inequality limits participation in the digital economy and restricts their access to vital resources such as education, information, and opportunities for personal and professional advancement. The lack of digital literacy further compounds the issue. Even when people have access to technology, many lack the training required to use it effectively. Digital literacy encompasses more than basic technical skills; it includes the ability to access, evaluate, and create information using digital tools.

2) Gender inequality and gender discrimination

Gender inequality and gender discrimination pose a significant obstacle to women's full participation in the future of work in Sub-Saharan Africa. In Sub-Saharan Africa, limited access to digital infrastructure and low levels of digital literacy significantly hinder women's ability to engage with the technologies driving the future of work. As digital proficiency becomes increasingly vital for social and economic inclusion, women who lack access to the necessary tools and skills face a growing risk of exclusion and marginalisation in the digital economy. Without these competencies, women are less likely to engage meaningfully in the evolving world of work [2]. Addressing gender inequality and gender discrimination is essential for enabling inclusive growth and ensuring that women across Sub-Saharan Africa can fully participate in and benefit from the opportunities emerging in the digital age. Gender-based discrimination and harassment remain significant barriers for women working in traditionally male-dominated sectors such as technology and industry. These challenges often contribute to hostile or unwelcoming work environments, negatively impacting women's job satisfaction, career progression, and overall well-being. Discrimination manifests in various ways, including unequal pay for work of equal value, limited access to career development opportunities, and bias in hiring and promotion practices [2]. For example, wage growth in Sub-Saharan Africa has lagged behind productivity gains, leading to a declining share of national income allocated to workers. This trend has disproportionately affected women, who continue to earn approximately 20% less than their male counterparts [15]. These inequities not only harm individual women but also reinforce broader societal structures that undervalue and marginalise their contributions. Such environments can discourage women from pursuing long-term careers in these fields or aspiring to leadership roles, significantly impacting the future of work in Sub-Saharan Africa.

Women in Sub-Saharan Africa face significant barriers to accessing ICT infrastructure and services, and their participation in the technology workforce remains disproportionately low. Various structural and social factors contribute to this gender gap. Cultural norms and expectations, unequal access to education and digital training, and gender bias in recruitment and promotion processes all play a role in limiting women's opportunities in the digital economy. Moreover, women are at a greater risk of job displacement than men, primarily because they are overrepresented in occupations highly susceptible to automation, such as clerical, service, and retail roles [2]. These disparities in access, representation, and opportunity are further compounded by systemic gender inequality and discrimination, which significantly hinder women's ability to engage with digital technologies. As a result, their participation in shaping and benefiting from the future of work in Sub-Saharan Africa is severely constrained. Addressing these inequities is essential for fostering a more inclusive and digitally empowered regional workforce.

Discriminatory practices can take many forms, ranging from subtle biases embedded in everyday decision-making to overt acts of harassment [2]. Together, these behaviours foster a workplace culture that may be perceived as uninviting or even unsafe for women in the future for work. Women currently represent only 30% of tech professionals in Africa, and troubling reports of sexual harassment and mistreatment continue to surface within the industry [16]. The presence of workplace harassment, whether verbal, physical, or sexual, further exacerbates these challenges. It creates a climate of fear and discomfort that undermines women's ability to perform their roles effectively [2]. More severe cases may lead to women withdrawing entirely from their professions, resulting in a loss of valuable perspectives, talent, and innovation within the industry. Addressing these issues is essential for fostering inclusive, equitable, and productive workplaces. Failure to confront gender inequality and gender discrimination not only hinders women's advancement but also limits the potential of industries to benefit from diverse and representative workforces sustaining organisations. True gender equality means that women and men have equal rights, conditions, and opportunities to realise their full potential and contribute to all economic, social, cultural, and political development. Achieving gender equality is not only a matter of human rights, but also a fundamental requirement for sustainable, inclusive, and people-centred development in the future of work.

3) Lack of diversity, equity and inclusion strategies

As organisations navigate transformation and labour market transitions, they are expected to take on a more prominent role in shaping the future of work, particularly by supporting vulnerable and marginalised talent groups and advancing social justice through DEI initiatives. Figure 9 indicates that women remain the

primary focus of DEI initiatives, while Gen Z (those under 25) is the second-most targeted group, underscoring the growing importance of younger workers in workforce development strategies [1]. These initiatives serve as constructive mechanisms for addressing recent labour market disruptions and fostering inclusive participation. However, individuals from low-income backgrounds receive the least attention in DEI programming, indicating a significant gap in organisational priorities [1]. Despite women's initiatives remaining the primary focus, gender inequality and gender discrimination are still major challenges in the future of work in Sub-Saharan Africa's digital economies. The region's tech ecosystem is rapidly expanding, but still lacks essential DEI structures necessary for equal opportunity and sustainable growth within the organisation. The inclusion of women remains limited. Most DEI policies are yet to be fully implemented, often citing constraints related to funding and workforce size [16]. Diversity, Equity, and Inclusion initiatives are frequently overlooked during foundational planning, hence posing a significant challenge to the future of work in Sub-Saharan Africa.

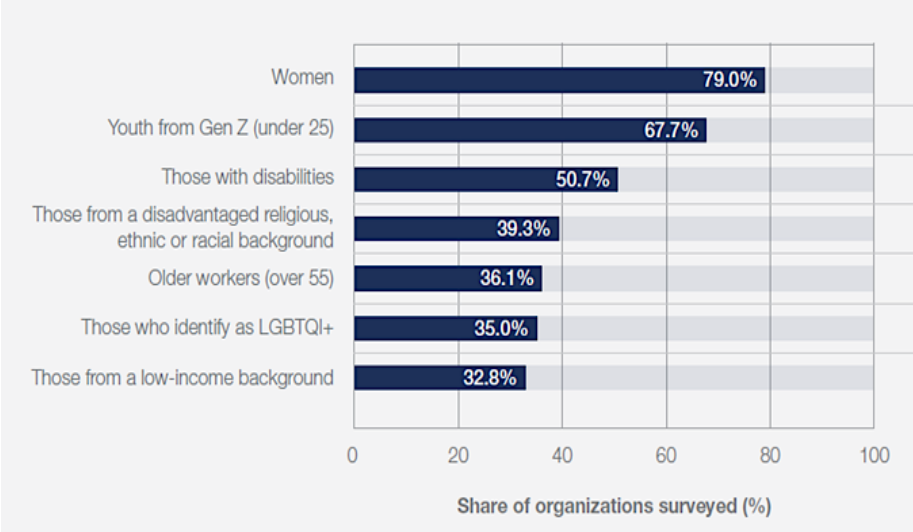

Figure 9. Focus on Diversity, Equity and Inclusion initiatives

3.3. Workforce

1) Unemployment

Sub-Saharan Africa is currently confronting one of the most significant challenges of its time, as profound and disruptive shifts in the future of work have far-reaching implications for societies across the continent. It is anticipated that by the 22nd century, Sub-Saharan Africa will represent the largest portion of the global

workforce, increasing from 16% in 2025 to more than 41% by 2100. Each year, over 22 million Africans aged 15 to 64 enter the job market, which amounts to nearly 2 million each month. This influx is projected to grow to over 33 million annually by 2050 [17]. [18] indicates that individuals from Sub-Saharan Africa with an intermediate level of education face the highest unemployment rates in the world at 13%, while those with advanced education have an unemployment rate of 10%. This is similar to the 10% unemployment rate experienced by individuals with a basic level of education, as seen in Figure 10. Overall, those with either intermediate or advanced education in Sub-Saharan Africa have the highest unemployment rates worldwide. Sub-Saharan Africa, unemployment rates consistently exceed the global average, reflecting a long-standing structural issue in the region's labour markets [10] [19]. The key challenge for the future of work in Sub-Saharan Africa will be to generate employment opportunities for the millions of young individuals entering the workforce, which has the exceptionally highest unemployment rates globally [12]. Sub-Saharan Africa is facing significant challenges related to employment and technology. Emerging forces, particularly technological innovation, are reshaping the future of work and intensifying the already urgent issue of unemployment. The challenges of unemployment and technological advancement are pressing concerns that need to be tackled when thinking about the future of work in Sub-Saharan Africa.

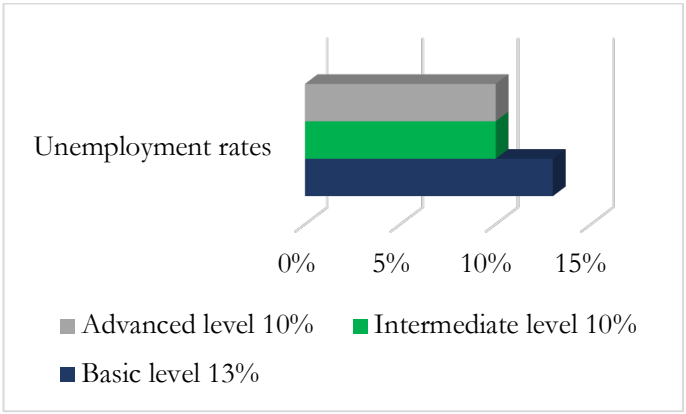

Figure 10. Unemployment rates and the level of education

Unemployment remains unacceptably high, and a significant portion of the labour force in Sub-Saharan Africa remains in informal employment [15]. The COVID-19 pandemic exacerbated this situation by accelerating the adoption of digital technologies, which, while offering new opportunities, also contributed to job displacement. Advances in artificial intelligence, automation, and robotics have created new roles, but those most affected by job losses are often the least equipped to transition into these emerging fields [15]. As a result, the share of employed working-age adults has declined, with traditional job markets disrupted

by the pace of digital transformation [19]. Meanwhile, rapid population growth, particularly among youth, threatens to intensify unemployment and migratory pressures. In this context, the task of creating decent, inclusive, and forward-looking work opportunities in Sub-Saharan Africa has become increasingly complex and urgent.

2) Inadequately skilled workforce

Sub-Saharan Africa has the largest proportion of individuals engaged in low-skilled employment and the smallest proportion in medium- and high-skilled positions compared to the rest of the world. [18] Indicates that over half of the workforce in Sub-Saharan Africa, at 57%, is found in low-skilled jobs, which represents the highest rate globally. Furthermore, 33% of workers hold medium-skilled roles, while only 10% are in high-skilled jobs, the lowest percentage on a global scale, as seen in Figure 11. Sub-Saharan African countries continue to face significant challenges related to low levels of human capital and a large proportion of inadequately skilled workers [14]. Despite growing efforts by governments to strengthen education and workforce development systems, this situation is expected to persist in the near term. However, digital technologies offer promising opportunities to enhance human capital by improving access to and quality of essential services such as education and healthcare. These technologies can empower under-skilled workers to acquire new competencies and perform more complex tasks within their current occupations, while also creating entirely new roles in the labour market [14].

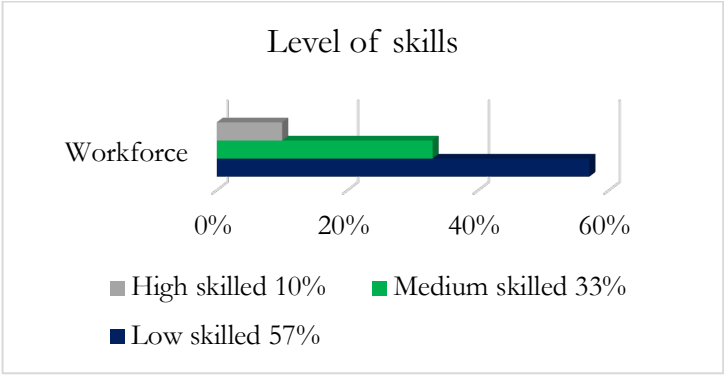

Figure 11. Workforce and Level of Skills

Perspectives on the future of work in Sub-Saharan Africa suggest that emerging technologies will play a critical role in driving the region's economic transformation, particularly across key sectors such as agriculture, manufacturing, modern services, local content development, and infrastructure [20]. However, despite this potential, the region remains inadequately prepared to fully capitalise

on these technological disruptions, primarily due to a shortage of skilled workers [14]. Sub-Saharan Africa is in the early stages of adapting to the evolving skills demanded by businesses and industries for the future of work in response to rapid technological change. While there has been progress in developing digital capabilities, especially in areas like digital literacy and web development, significant disparities persist. These gaps are evident not only across different types of digital skills but also between countries within the region.

3.4. Discussion

Technology is fundamentally reshaping the approach to work in Sub-Saharan Africa, altering how tasks are performed and the nature of job content, the types of skills in demand, and which roles are becoming obsolete. Understanding the implications of technological change on labour markets is essential to assessing whether workers can effectively transition from declining occupations to emerging ones. This research confirms that Sub-Saharan Africa labour markets are now confronted with one of the most critical challenges of their time: the fundamental and disruptive changes in the future of work are reshaping not only labour markets but society as a whole. For countries in Sub-Saharan Africa, these transitions present particularly urgent and complex challenges in the world of work. In our pursuit of creating decent, inclusive, and sustainable work for the future, the path forward has become even more demanding for Sub-Saharan countries.

The most valuable asset for the future of work in the digital era is individuals and their skills [21]. This research highlights that the most significant challenge that Sub-Saharan Africa faces in embracing the future of work and digital technologies is a lack of skilled personnel with digital skills. This research concurs with [22] that there is a shortage of digital skills in Africa, which stems largely from insufficient investment in digital infrastructure and education. Many organisations do not possess the technical know-how required to implement and manage complex digital systems, leading to delays in adopting these technologies and incurring higher costs for staff training and recruitment [23]. Additionally, some organisations may be unable to afford experienced IT professionals, resulting in a dependence on less qualified workers. While adopting digital technologies offers numerous advantages, it also comes with difficulties, such as a shortage of skills, security concerns, and resistance to change [24]. To fully leverage the benefits of digital transformation, organisations in Sub-Saharan Africa must tackle these issues by investing in essential skills, infrastructure, and resources. This goal necessitates a collaborative effort from both the public and private sectors to offer the necessary support and incentives for organisations to embrace digital technologies effectively and enhance their digital skills. Such an approach is crucial for fully realising the potential of the digital revolution in Sub-Saharan Africa.

Beyond the digital skills gap, this study highlights another major challenge concerning the future of work is how digital transformation affects the development of essential digital skills. This transformation has resulted in the creation of new skills while rendering others obsolete, especially in Sub-Saharan Africa. Workers must consistently update their skills to stay competitive in the job market. It is crucial for African governments to invest in skills development to ensure their workforce is equipped with the skills necessary to succeed in the digital era. To tackle this issue, governments should incorporate digital skills training into their educational systems. Furthermore, they should collaborate with the private sector to encourage innovation and improve skill development initiatives. Conscious efforts by the government and stakeholders need to be made to intentionally invest in developing digital skills in Sub-Saharan Africa. This focus is crucial for ensuring that the workforce has the appropriate digital expertise needed for the future job market. By bridging the digital skills gap, this investment will enhance the availability of digital skills throughout the region.

Gender inequality and gender discrimination are the second major challenges impacting the future of work in Sub-Saharan Africa. This research indicates there are systemic hurdles that prevent African women from fully participating in the future of work and benefiting from the digital economy. This research highlights that significant gender disparities persist in the labour markets, impacting the future of work in Sub-Saharan Africa. Women face limited access to ICT infrastructure and services, and their representation in the digital workforce is also restricted. The research concurs with [2] and [4] that cultural expectations and assumptions, limited opportunities for education and training, and prejudices in the processes of hiring and promoting contribute to gender inequality and gender discrimination, impacting the future of work for African women in the labour market. Cultural norms continue to restrict women's movement and access to information, as well as economic impediments that make technology unaffordable for a significant number of women in Sub-Saharan Africa.

Although digital transformation offers numerous opportunities in Sub-Saharan Africa, unemployment continues to pose a significant challenge, with the region exhibiting the highest rates globally. The region's rapidly growing youth population intensifies pressure on fragile job markets, contributing to rising youth unemployment. The expanding population of young people in Sub-Saharan Africa is set to exacerbate youth unemployment pressures, making efforts to create decent future work even harder. African youth, half of them women, are three times more vulnerable to unemployment than male adults [3]. According to [1], [12], [18] and [21], there is a concern that 50% of jobs in Sub-Saharan Africa are threatened by automation in the near future, which could worsen the already alarming unemployment situation. Given that many positions in this area are low-skilled, they are particularly vulnerable to being automated, posing a challenge to the job

p-ISSN: **2656-5935** http://journal-isi.org/index.php/isi e-ISSN: **2656-4882**

market. Women are more prone to job displacement than men, mostly due to their overrepresentation in jobs with a higher probability of automation, such as clerical, service, and retail roles. Women are underrepresented in the fast-growing industries in future of work that require expertise in digital skills, such as technology and engineering, in Sub-Saharan Africa. Compounding this challenge is the growing mismatch between current skill sets and the demands of future jobs. Many newly acquired skills risks becoming obsolete quickly, further widening existing regional and gender inequalities in the digital economy in Sub-Saharan Africa [21]. The digital skills gap and the locally trained human potential that Sub-Saharan African countries are struggling to keep and use at the national level widens the gender gap in the labour markets, impacting the future of work. Thus, it is essential for governments in Sub-Saharan Africa to focus on enhancing digital skills and fostering entrepreneurship to encourage job creation to address the future of work.

The limited use of technology is a challenge that impacts the future of work in especially for women from Sub-Saharan Africa. The likelihood of women from Sub-Saharan Africa having access to the Internet, mobile phones, and other digital resources is significantly lower than that of men in the same region [2]. There is a significant gap in the availability of technology resources, which has a significant impact on the ability of women to participate in the digital economy and the future of work. Furthermore, there is the frequent exclusion of women in Sub-Saharan Africa from educational and training programs that would enable them to gain the essential skills for efficiently utilising digital technology. A lack of sufficient educational and training options in STEM disciplines is a major obstacle for numerous women in Sub-Saharan Africa, hindering their capacity to engage in and reap the benefits of the digital economy, hence limiting the available workforce required for the labour market. The unequal compensation, limited access to education and training in STEM fields, and cultural norms that discourage women from pursuing employment in technology are some of the challenges that women face in Sub-Saharan Africa. This hampers African women's participation in the digital economy and restricts their access to information, education, and opportunities for both personal and professional development. Additionally, the lack of digital literacy training worsens this issue for women from Sub-Saharan Africa.

Gender inequality and gender discrimination not only restrict the employment prospects of women but also impede the general development and competitiveness of Sub-Saharan African nations in the global economy. The future of work prioritises competencies such as digital literacy, critical thinking, and adaptability, which create opportunities for women to participate in and exert influence in traditionally male-dominated industries. The transition to a more technologically advanced economy requires a workforce that is both diverse and

highly competent, underscoring the significance of women's inclusion in future of work. Given the heavy reliance on technological and digital capabilities, a workforce lacking diversity and women's representation may fail to benefit from the distinct perspectives and innovation that women contribute to these domains. The underrepresentation of women in the future of work is a critical research concern because it limits the potential for growth that is inclusive, diverse, and sustainable labour markets in Sub-Saharan Africa. In addition, it exacerbates gender inequities that already exist in areas such as education, healthcare, and career opportunities, further restricting the opportunities available to African women in Sub-Saharan Africa. It is crucial to bridge this gap, as it is essential for both the empowerment of women and the economic and technological progress of Sub-Saharan African nations. This is a problem that has to be addressed immediately.

This research concurs with [4] and 25] that the digital divide is one of the major challenges impacting the future of work in Sub-Saharan Africa. The "digital divide" is the gap between individuals or communities who have access to and use digital technologies, such as computers and the internet, and those who do not have access in Sub-Saharan Africa [2]. The digital divide denotes the inequalities in access to the internet and availability of digital technologies, which are particularly conspicuous among women, particularly in rural or economically disadvantaged regions in Sub-Saharan Africa. The lack of digital access and literacy caused by the digital divide poses a substantial obstacle for the workforce, especially for women, which limits their capacity to properly engage with digital technologies. In numerous rural and underprivileged regions, there is a lack of internet connectivity and digital gadgets that significantly impacts the future of work in Sub-Saharan Africa.

When it comes to gaining access to technology, women in Sub-Saharan Africa face a persistent barrier in the form of the gender digital divide. One of the factors that contributes to this difference is the unequal distribution of access to and utilisation of digital technology, which is based on gender. In a time when being skilled in digital technology is becoming more and more important for participating in labour markets, not everyone, especially women, has access to these digital tools in Sub-Saharan Africa. The division arises from a multitude of circumstances, such as socio-economic limitations, inadequate infrastructure, and cultural conventions that may privilege men's technological access over women's. Insufficient proficiency in utilising technology poses a substantial challenge for African women, even if they have access to it. Women from Sub-Saharan Africa who lack digital literacy skills to utilise digital tools are less inclined to utilise digital technology and participate in the digital economy. It is crucial to bridge the digital divide, especially in rural and impoverished regions, to ensure women's meaningful participation in the digital economy in Sub-Saharan Africa. By bridging this divide

for women, they will be able to actively engage in and reap the advantages offered by the digital era in Sub-Saharan Africa.

4. CONCLUSION

As digital transformation continues to influence the future of work by reshaping labour markets over the coming decade, it is expected to disrupt traditional employment patterns and create significant new job opportunities across Sub-Saharan Africa. To prepare for this evolving future of work, there is an urgent need for African education systems to design future-ready curricula. These should prioritise critical thinking, creativity, emotional intelligence, and the accelerated development of digital and STEM (science, technology, engineering, and mathematics) competencies, skills essential for the collaborative and technology-driven workplace of tomorrow. The transition into this new era requires bold and strategic interventions. Addressing the challenges of digital transformation in Sub-Saharan Africa labour markets demands comprehensive policies and innovative strategies. These changes offer a valuable opportunity to improve job quality, expand access to employment, bridge gender gaps, and tackle persistent inequality and poverty. They also present the potential to formalise informal employment and foster inclusive growth.

Importantly, these transitions must harness the transformative power of the emerging digital, green, and care economies. The goal is to ensure that all future jobs in Sub-Saharan Africa labour markets are accessible, decent and sustainable. Realising this vision will require a fundamental reassessment of the frameworks that shape economic and labour decisions, how economies are structured, how businesses operate, and how different types of work are valued in society. However, these outcomes will not materialise automatically. Current disparities and insecurities will likely deepen without deliberate and coordinated action. The future of work in Sub-Saharan Africa labour markets holds tremendous promise, but it is contingent upon the bold choices and investments governments, policymakers, and businesses make today. These decisions will determine whether the next generation of African workers, innovators, and entrepreneurs can thrive in an inclusive and dynamic economic landscape.

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