

Impact of the Higher Education Training on the Labor Market Demand : Evidence from African Higher Education

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Abstract: This study aims to analyze the impact of higher education training on labor market demand in Africa, using a documentation study approach. In an ever-evolving global context, higher education plays an important role in preparing individuals to face the demands of a dynamic labor market. However, in many African countries, there is a gap between the skills provided by higher education institutions and the needs of the labor market. Through documentation studies, this study collects and analyzes secondary data originating from various government reports, international institutions, and previous studies regarding the relationship between higher education and labor demand in Africa. The findings show that although higher education in Africa can improve the quality of human capital, there is a mismatch between the skills taught and the skills required by the industrial sector. This study also identified key challenges, such as a lack of relevant curriculum and limited educational facilities, that impact the effectiveness of training in meeting labor market needs. Therefore, this study recommends curriculum reform that is more adaptive to industry needs and increased collaboration between educational institutions and the private sector to create more relevant and quality training programs.

Keywords: Africa; High Education; Labour Demand; Training

1. Introduction

Higher education is widely recognized as a key driver of economic development, innovation, and social mobility (Kountouris, 2020). In Africa, the expansion of tertiary education over the last two decades has been substantial, with enrollment rates rising steadily as countries invest in human capital development (Majgaard & Mingat, 2012). Governments and international development partners alike have emphasized the strategic importance of equipping youth with the skills and knowledge required to participate effectively in the global economy. However, while access to higher education has increased, questions remain about its quality and its relevance to labor market needs (Teferra & Altbach, 2004; World Bank, 2021).

Despite the growing number of graduates entering the job market, many African economies continue to face high levels of youth unemployment and underemployment (Guàrdia et al., 2021). This paradox points to a growing disconnect between the output of higher education institutions and the actual demands of the labor market. In particular, employers frequently report that graduates lack the necessary technical, practical, and soft skills required in the modern workplace, especially in high-demand sectors such as manufacturing, technology, and engineering (Juma & Ordu, 2021; African Development Bank, 2020). The limited employability of graduates has raised concerns about the effectiveness of higher education systems in preparing students for the realities of the job market.

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One of the most pressing challenges identified in the literature is the misalignment between university curriculum and labor market requirements (McCowan, 2015; Emynorane et al., 2024). In many African institutions, academic programs remain heavily theoretical, with limited emphasis on hands-on experience or problem-solving skills (Marques & Estima, 2024). Teaching methods are often outdated, relying on rote memorization rather than active, student-centered learning. As a result, students often graduate without the competencies needed to thrive in dynamic, fast-changing work environments (Bloom, Canning & Chan, 2006). The lack of internship opportunities, practical training, and exposure to industry practices further weakens the job readiness of graduates.

Compounding this issue is the persistent shortage of infrastructure and educational resources. Many universities across Africa operate under severe constraints, including inadequate laboratories, outdated technology, overcrowded classrooms, and insufficient internet access (World Bank, 2021). These limitations make it difficult to deliver high-quality education or to incorporate modern teaching tools that could enhance learning outcomes. In turn, this undermines the capacity of institutions to respond to labor market shifts and technological advances (Badroodien & Kraak, 2006; Filho et al., 2025)

Private sector engagement in higher education development remains limited, despite its potential to enrich the relevance of academic programs (Rodríguez-Rodríguez et al., 2024). Strong industry-academic partnerships can facilitate curriculum development, provide workplace training, and promote innovation and research that responds directly to economic needs (Rof et al., 2024). However, collaboration between universities and businesses in Africa is often informal or underdeveloped, with few mechanisms in place to align training programs with industry expectations (Mohamedbhai, 2014). This lack of structured engagement limits opportunities for students to gain practical experience and for employers to influence educational outcomes.

This study addresses a critical gap in the literature by examining the extent to which higher education training in Africa aligns with labor market demands. While numerous reports highlight the skills mismatch issue, there is a need for a more focused analysis of how institutional training practices influence workforce readiness, particularly through a review of documented policies, program designs, and employer feedback (Sutin, 2018). By using a documentation study approach, this study seeks to provide a nuanced understanding of existing gaps and identify opportunities for reform.

The study also contributes to ongoing debates about how African higher education systems can transition from knowledge-based models to competency-based approaches. This shift is particularly relevant in the context of global transformations such as digitalization, climate change, and demographic shifts, which are reshaping the nature of work and the types of skills required for success (Murtadlo et al., 2025). Ensuring that graduates are not only

knowledgeable but also adaptable and practically skilled is essential for sustainable development and economic competitiveness.

Moreover, the significance of this research lies in its potential to inform policy decisions and institutional strategies. By identifying the main barriers to effective training and highlighting best practices, the findings aim to support educational reform efforts that can lead to more responsive and inclusive systems. This is particularly important given Africa's youthful population and the pressing need to create meaningful employment opportunities for millions of young people entering the workforce each year (Oketch, 2016; Schweisfurth et al., 2018).

Several international and regional organizations have proposed frameworks for improving the alignment between education and employment, such as UNESCO's Education for Sustainable Development roadmap and the African Union's Continental Education Strategy for Africa (CESA 2016-2025). However, the implementation of these strategies remains uneven, and their impact has not been systematically assessed across different national contexts (UNESCO, 2019; World Bank, 2021). This study therefore provides timely evidence that can support the effective operationalization of such policies at both national and institutional levels.

2. Methodology

This study employs a documentary analysis approach, which involves the systematic review and interpretation of existing secondary data. This method was selected as it enables an in-depth examination of a wide range of pre-existing materials such as policy documents, official reports, academic publications, and institutional data without the need for primary data collection through surveys or interviews. The documentary analysis approach is particularly suitable for exploring complex and large-scale phenomena, such as the alignment between higher education training and labor market demands across diverse African contexts.

The data analyzed in this study were drawn from a variety of reputable and relevant sources. These include official government reports from African countries on higher education policies and employment strategies, as well as publications from international organizations such as the World Bank, UNESCO, OECD, and the African Development Bank. These sources provide comprehensive insights into the current state of higher education and labor market trends on the continent. In addition, peer-reviewed academic journal articles and previous empirical studies were included to supplement the analysis with theoretical perspectives and case study evidence.

The documentary materials were selected using a purposive sampling strategy, focusing on sources published within the last 10–15 years to ensure the relevance and timeliness of the data. Criteria for selection included the credibility of the source, its relevance to the research questions, and the depth of information provided on the relationship between higher education and labor market outcomes.

Once collected, the data were analyzed using thematic content analysis. This involved identifying recurring themes, patterns, and relationships within and across the documents that relate to the impact of higher education training on labor market needs. Specific attention was given to the identification of skill mismatches, curriculum relevance, employer expectations, graduate employability, and the role of private sector involvement in education. The analysis also considered regional differences across African countries where applicable.

To ensure rigor, the data were critically evaluated for consistency, bias, and validity. Conflicting findings or perspectives across sources were noted and interpreted in light of different national contexts or methodological approaches. Through this critical lens, the study aims to highlight key structural challenges faced by African higher education systems and uncover opportunities for policy and curricular improvements.

3. Results and discussion

The results of the data analysis show that despite the progress of the number of students graduated from the higher education in Africa, still many countries face major challenges in terms of the relevance of higher education training to labour market needs. Some key findings from this study are.

3.1. Inappropriate Skills

Many college graduates face difficulties in adapting to the demands of the world of work, because they were not trained with relevant practical skills (World Bank, 2021). Many higher education programs in Africa, especially in the social sciences and humanities, tend to focus more on theory than practical application, leading to a gap between what students learn and real needs in the job market (Eze et al., 2024).

In many African countries, higher education curricula are still designed using traditional approaches which are not reflecting with the latest industrial or technological developments (Morley et al., 2009; Emynorane et al., 2024)). For example, at some universities, courses often do not include topics related to technology skills, data analysis, or managerial abilities which are needed in today's business and technology sectors. Additionally, rapid changes in technology and globalization require more adaptive skills development, but many higher education institutions have not been able to adapt their curricula quickly to these changes (Nadia et al., 2020).

In the technology sector, for example, skills in programming, software development, artificial intelligence and data analysis are in high demand, but not all universities in Africa offer programs that meet these needs (Wilson-Strydom, 2015). Many engineering and computer science graduates from African universities are not fully prepared to enter the world of work because they have not been trained with up-to-date technical skills. In this regard, many industries, especially in the technology and manufacturing sectors, prefer to train their own workers rather than relying on college graduates (Schweisfurth et al., 2018). Furthermore, the

skills mismatch does not only occur in the technology sector, but also in various other sectors such as health, education and management (UNESCO, 2019). For example, in the health sector, many medical students graduate with good theoretical knowledge, but lack practical experience in dealing with real situations in hospitals or clinics. Skills such as patient management, use of the latest medical technology, or effective communication skills with patients are often inadequately taught in many medical education programs in Africa (Oketch et al., 2014).

In the education sector, there is a similar problem where graduates of educational programs often lack the skills to teach effectively in increasingly diverse classes, or to take advantage of ever-evolving educational technologies (Smigaj et al., 2025). Educational curricula in many African higher education tend not to accommodate the development of modern teaching methods, which are urgently needed to face the challenges of teaching in the current digital era (Emynorane et al., 2024). In addition, this mismatch also has an impact on high unemployment rates among college graduates in Africa. Many students are graduate from bachelor's or postgraduate degrees programs, but they have difficulty on finding jobs that match the education they received (Mukasa, 2018). This fact shows that although higher educations in Africa are able to increase the levels of literacy and knowledge, it is not effective enough in preparing its students to face the practical demands of the world of work. Moreover, even some African countries have attempted to remedy this problem by introducing job skills training or apprenticeship programs, their impact is still limited. Many companies feel that the internships or job training offered by the universities do not provide enough experience to ensure that its graduates are ready to work (Altabch et al., 2009).

The mismatch between the skills taught in higher education and the needs of the labour market confirms that major reform in Africa's education systems is really needed. One solution is to strengthen partnerships between universities and industry. Closer collaboration can help ensure that higher education's curricula are always up-to-date and relevant to industry developments (UNESCO, 2019). In this way, higher education in Africa can produce graduates who are better prepared for work and can meet the demands of the growing labour market.

3.2. Limited Infrastructure and Resources

Many higher education systems in Africa grapple with significant challenges stemming from inadequate facilities and limited resources. Although student enrollment in tertiary institutions has risen across the continent, most universities continue to suffer from a lack of essential infrastructure (World Bank, 2021). Laboratories, modern classrooms, and up-to-date technological equipment are often insufficient or outdated, hindering the delivery of quality education. As a result, these shortcomings compromise the institutions' capacity to equip students with the skills and knowledge necessary to thrive in an increasingly competitive labour market (Cloete et al., 2011).

One important example is the lack of adequate laboratory facilities in many universities in Africa. Some educational programs require practical experiments, such as natural sciences, engineering, or medicine, but they are often hampered by a lack of the latest equipment and technology (McDonald et al., 2025). In some universities, students can only learn theory without direct experience using the tools used in industry. As a result, students acquire sufficient theoretical knowledge, but they are not ready to face the challenges of the world of work which require more practical skills and hands-on experience. Apart from that, many universities in Africa also face problems related to the lack of technology-based learning facilities. Classes should be equipped with computer equipment, the latest software, or fast internet connections, but it is not the case in most African campus because they don't have enough resources (Balwanz & Ngcwangu, 2016).

Infrastructure limitations also include a lack of adequate classrooms and teaching facilities that can accommodate the increasing number of students. Many universities in Africa have difficulty in providing classrooms that are large and comfortable enough to support the teaching and learning process (Emynorane et al., 2024; British Council, 2014). This often leads to overcrowded classes, which reduces the quality of interactions between lecturers and students. In addition, inadequate physical conditions on campuses can make students feel less motivated and unable to study effectively (Mohamedbhai, 2014).

In the higher education sector, many universities also face challenges related to limited human resources, lack of qualified and trained teaching staff. According to Abdullah & Henry (2025), some lecturers have an adequate qualification in the academic field, but they often lack of training in using the educational technology or practice-based teaching. This limitation results in the inability of the universities to provide relevant and adequate learning experiences for students who must be ready to face the world of work.

In addition, limited budget management also contributes to the inability of many universities to meet the infrastructure and facility standards needed to support quality learning (UNESCO, 2019). Many African universities rely on very limited funding from governments and external donors, which is often insufficient to update equipment, improve facilities, or develop training programs relevant to industry needs. This lack of investment in higher education hinders the progress that could be made in improving the quality of Africa's skilled workforce.

To address this problem, several countries in Africa have begun working to improve their higher education infrastructure, although these changes will still take time. Some governments are starting to allocate larger budgets to higher education, and some universities are collaborating with the private sector to improve their facilities (Nadia et al., 2020). Without significant improvements in infrastructure, the quality of higher education in Africa will remain hampered, this will be ultimately impacting graduates' readiness to enter the labour mar-

ket. It is then very important for governments and educational institutions to continue investing in improving higher education infrastructure. Investments in educational technology, practicum facilities, and teaching staff training are necessary to ensure that students receive not only theoretical knowledge but also relevant practical skills (Rof et al., 2024, Emynorane & Arrive, 2024). In addition, closer cooperation between the public and private sectors could also be a solution to increase the availability of resources in higher education, especially in countries that face large budget constraints (Rodríguez-Rodríguez, 2024). With appropriate infrastructure improvements, higher education in Africa can be more effective in preparing a skilled and ready workforce to meet the demands of a growing labour market.

3.3. The Role of the Private Sector

The private sector has a great potential to contribute to the development of higher education, either through partnerships with universities, providing internship opportunities, or in developing curricula that are more relevant to industry needs (McCowan, 2015). However, in many cases, the private sector in Africa has not been fully involved in influencing the quality and relevance of higher education. Most universities still operate within a separate framework from the industrial sector, which causes a gap between the skills taught on campus and those needed in the world of work (Kountouris, 2020).

The private sector can play an active role in updating higher education curricula to better suit the needs of a rapidly evolving labour market. In many African countries, higher education curricula still focus more on theoretical knowledge than on the practical skills needed in key industrial sectors such as technology, health, manufacturing and finance (Mohamedbhai, 2014). Partnerships with private companies can help ensure that the curriculum covers the latest technical skills and practices required by the labour market (World Bank, 2021). For example, the technology sector in Africa needs many graduates skilled in software development, big data, and artificial intelligence, which are often not taught in depth in many universities.

Many companies in Africa, despite facing difficulties in finding skilled labour, do not provide enough opportunities for internships or training for students. Internships are one of the best ways to bridge the gap between theoretical education and the skills needed in real work (Filho et al., 2025). By giving students, the opportunity to gain hands-on experience in the workplace, companies can help them develop skills that are more relevant and applicable in the professional world. In addition, the private sector also has a significant role in providing post-employment training or ongoing skills development for college graduates. Therefore, the private sector can provide advanced training programs that teach specific skills required by certain industries. This training program not only helps in improving individual abilities, but also increases the competitiveness of the workforce in the global market (Rof et al., 2024).

African higher education institutions often lack good communication channels with the private sector to understand workforce needs and create more relevant training programs

(Sutin, 2018). One of the main obstacles to increase the role of the private sector is the economic uncertainty that exists in many African countries. Many companies operating in Africa face challenges related to government policies, economic instability and lack of adequate infrastructure (Schweisfurth et al., 2018). This makes them reluctant to invest in higher education programs or in developing workforce skills. In some cases, companies are also reluctant to involve themselves in higher education because they feel that the results of such investments are not immediately profitable or are too slow to have a significant impact.

To increase the role of the private sector, more supportive policies and incentives are needed for companies to collaborate with universities. The government can create policies that encourage collaboration between the education sector and the private sector, such as through tax exemptions for companies that provide internships or training for students (UNESCO, 2019). In addition, universities need to build closer ties with the private sector to identify labour market needs and design more appropriate curricula. This collaboration will enable companies to more easily access a skilled and ready workforce.

By strengthening the role of the private sector in higher education, Africa can create an education system that is more dynamic and responsive to labour market needs (Oketch, 2016). Closer collaboration between the private sector and educational institutions could help create training programs that are better suited to industry needs, which in turn would improve the quality of college graduates (Murtadlo et al., 2025). This can also reduce the unemployment rate among graduates, as they will have the skills required by companies. As a result, higher education in Africa can serve as a key driver for more sustainable economic growth and social development.

4. Conclusion

The results and discussion highlight that while higher education in Africa is expanding, several critical challenges continue to undermine its ability to effectively prepare a skilled and job-ready workforce. A key issue is the persistent gap between the skills provided by tertiary institutions and those demanded by the labour market. Compounding this problem are the widespread limitations in infrastructure and resources across many universities. Furthermore, the private sector remains largely under-engaged in the development of higher education, despite its significant potential to contribute to the creation of relevant skills and support the growth of a more competent workforce. Based on these findings, several important recommendations can be put forward. First, curriculum reform in higher education is needed to include practical and technology-based skills that are in line with industry needs. Closer collaboration between universities and the private sector is essential to ensure higher education curricula can adapt to developments in the labour market. Internship programs and industry-based training should be expanded to provide students with more practical experience during their studies. Second, to overcome infrastructure and resource limitations, the government

needs to increase investment in higher education and work with the private sector to improve facilities and provide the equipment necessary for practical learning. Finally, policies that support partnerships between the private sector and higher education institutions, such as fiscal incentives for companies that invest in training and skills development, should be introduced. With these steps, higher education in Africa can be more effective in producing a workforce that is skilled and ready to face the challenges of the global market.

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