



REPUBLIC OF KENYA

**MINISTRY OF LABOUR AND SOCIAL PROTECTION
State Department for Labour and Skills Development**

**EMPLOYABILITY SKILLS IN MANUFACTURING AND
AGRICULTURE SECTORS IN KENYA**

2023-2024

PREFACE



In alignment with Kenya's Vision 2030 and the Bottom-Up Economic Transformation Agenda, the Directorate of Labour Market Research and Analysis under the State Department for Labour and Skills Development undertook a task to produce quarterly indicators on employability skills within the manufacturing and agriculture sectors. This report aims to provide insights into the current demand for employable skills in the labour market, thereby guiding policy decisions and workforce development initiatives.

Kenya's Vision 2030 envisions a globally competitive nation by the year 2030. The Medium-Term Plan IV focuses on increasing employment opportunities and fostering economic growth. The Bottom-Up Economic Transformation Agenda emphasizes on creating jobs and driving inclusive economic growth through strategic interventions in key sectors such as manufacturing and agriculture.

The State Department for Labour and Skills Development plays a crucial role in realizing these visions by ensuring a well-prepared and skilled workforce. The Directorate of Labour Market Research and Analysis has the mandate to provide Labour market information by monitoring labour market trends, analyzing skill demands, and providing data-driven insights to support policy formulation and workforce development strategies.

This report consolidates the findings from the quarterly reports on employability skills in the manufacturing and agriculture sectors. It provides analysis of skill demands, and offers recommendations to bridge skill gaps and enhance the employability of the Kenyan workforce. Through this initiative, the Directorate aims to support the national agenda by fostering a skilled and adaptable workforce capable of meeting the evolving demands of the manufacturing and agriculture sectors.

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ACKNOWLEDGEMENT



The State Department for Labour and Skills Development extends its heartfelt gratitude to the Directorate of Labour Market Research and Analysis for their dedicated and meticulous efforts in conducting the research that led to the comprehensive information presented in this document. Your thorough analysis and commitment to understanding the intricacies of the labor market have played a pivotal role in providing critical insights that will guide policy decisions aimed at

improving the employability of our youth.

We would also like to offer special thanks to the Labour Market Observatory Unit for their tireless work in collecting, verifying, and compiling the vast amounts of data presented here. Your attention to detail and rigorous approach to ensuring the accuracy and reliability of the information is commendable.

This document, a result of your hard work and dedication, serves as an invaluable resource for shaping policies, interventions, and programs that will enhance the skills and employability of Kenyan youth. We trust that it will provide policymakers, educators, employers, and job seekers with the insights needed to address the evolving demands of the labor market. We remain hopeful that the information in this document will serve as a stepping stone toward a more prosperous and sustainable future for all.

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1. INTRODUCTION

In recent years, the dynamics of labor demand in Kenya's agriculture and manufacturing sectors have become a critical focus for policymakers, job seekers and other players in the labour market. Understanding these dynamics is essential for developing effective strategies to enhance employment opportunities and stimulate economic growth. This report presents a quarterly analysis of labor demand within these sectors, utilizing job advertisement data obtained through web crawling from various websites.

The need for this report arises from the significant role that agriculture and manufacturing sectors play in Kenya's economy. Agriculture is the backbone of Kenya's economy, contributing substantially to the GDP and employing a large portion of the population. Similarly, the manufacturing sector is critical in driving industrialization and economic diversification. By analyzing labor demand trends, this report seeks to provide insights into the workforce needs and emerging employment patterns in these sectors.

The report assesses Labor market trends by analyzing job advertisements and identifying the key employability skills in demand. Sectoral Analysis is also outlined in this report by comparing labour demand between the agriculture and manufacturing sectors, highlighting differences and similarities in key employability skills. The findings presented by this report will inform policymakers and stakeholders about current labour market needs, aiding in the development of targeted interventions to bridge skill gaps and promote job creation.

2. OBJECTIVES

The primary objective of this report is to provide quarterly labour market indicators that reflect the current demand for employable skills in the manufacturing and agriculture sectors. By analyzing data collected from job listings, the Directorate of Labour Market Research and Analysis aims to:

- Provide insights into the most sought-after skills by employers in Agriculture and Manufacturing sectors for the period 2023-2024 financial year.
- Identify trends and patterns in skill demands.
- Offer recommendations for policy makers, educational institutions, and job seekers to enhance workforce development.

3. SCOPE OF THE REPORT

This report contains quarterly insights on employability skills in manufacturing and agriculture sectors, collected via web crawlers from job listing sites. The findings are based on data crawled from the second quarter of 2024, with a graphical presentation of the skills in demand, illustrating the trends and needs within these sectors.

3.1 methodology

The methodology for this report on employability skills in the manufacturing and agriculture sectors involved several key steps, from data collection to the generation of labour market

indicators. These steps ensure that the data analyzed is reliable, relevant, and accurately reflects the current skill demands in these sectors.

3.1.1 Data Collection

To collect job advertisements data, web crawlers were deployed to gather information from multiple job websites within Kenya. These web crawlers systematically extracted job postings that were then used to analyze the demand for various employability skills in the manufacturing and agriculture sectors. The data collection process was conducted at the end of each quarter to ensure a consistent and up-to-date dataset.

3.1.2 Data Cleaning and Analysis Process

The raw data collected from job listing websites underwent cleaning and analysis process to ensure accuracy and reliability. Occupations were coded and classified using the Kenya Standard

Classification of Occupations (KeSCO), and industries were categorized using the Kenya Standard Industrial Classification of All Economic Activities (KeSIC). These classifications facilitate standardization of data. After coding of the occupations and industries, A syntax code in Stata was used to clean and identify the most frequently listed occupations and skills by categorizing job listings based on required skills, qualifications, and job descriptions provided by employers. Employability skills indicator were then calculated based on the frequency and distribution of coded occupations within each sector, providing a quantitative measure of skill demand in the labour market.

3.2 limitations

- **Data Source Reliability** - The accuracy of the data is dependent on the completeness and correctness of job listings on various job sites.
- **Sector Representation:** Not all subsectors within manufacturing and agriculture may be equally represented in the job listings.
- **Skill Proxies:** Using occupations as proxies for skills may not capture all nuances of skill requirements.

4. FINDINGS

This covers all the quarterly findings from the period October 2023 to June 2024 (Q2, Q3 & Q4). Due to inadequate data collected for quarter one (July - September 2023), Quarter one findings are not included in this report.

4.1 QUARTER ONE & TWO.

What were the most sought skills by Employers in the second Quarter 2023/24? And what does it imply for a job seeker/ policy makers/training institution?

Table 1: **Most sought skills by the number of vacancies in Agriculture sector**



The most sought-after skills in the agricultural sector during the second quarter were diverse, reflecting the multifaceted nature of agricultural operations. At the forefront of demand were the Agricultural and farming skills encompassing agricultural, forestry and fisheries management skills, animal and crop growing skills and environmental management skills. This highlights the importance of expertise in managing agricultural production processes effectively.

The second most sought after skills were Sales skills, involving both sales and marketing abilities. This demonstrates the need for promoting agricultural products and expanding market reach by promoting products and driving sales within the industry.

Secretarial skills ranked third, encompassing client information management and record-keeping skills for materials and transport. Next in demand were Engineering skills, which comprise technical expertise in life sciences and physical engineering, highlighting the importance of technical expertise in maintaining agricultural machinery and infrastructure.

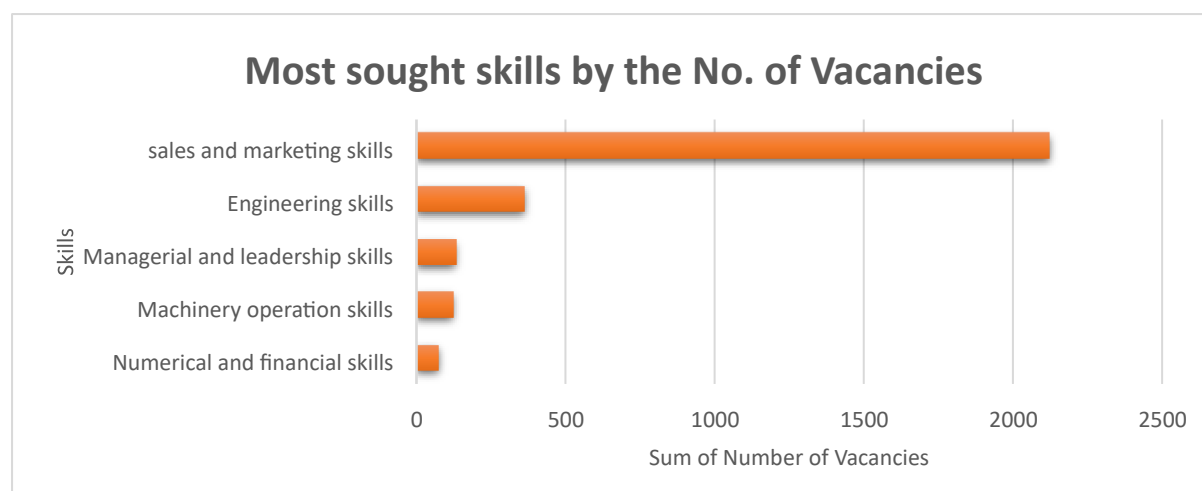
Implication for job seekers: Job seekers should focus on acquiring and strengthening these specific skills to enhance their employability. Investing in education and training programs that offer certifications or hands-on experience in these areas can significantly increase job prospects. Additionally, job seekers should stay informed about industry trends and continuously update their skills to remain competitive in the evolving agricultural job market

Implication for policy makers: Policy makers should consider implementing and supporting educational and vocational training programs that focus on the most in-demand skills, such as core agricultural practices, sales and marketing, secretarial, and engineering skills. Additionally, creating partnerships between government, educational institutions, and the private sector can foster a more skilled workforce, ultimately driving growth and efficiency in the agriculture sector

Implication for training institutions: Training institutions should offer specialized courses and practical training in core agricultural skills, sales and marketing, secretarial, and

engineering skills, institutions can better prepare their students for the job market. It is essential for these institutions to collaborate with industry stakeholders to ensure that their training programs are relevant and upto-date, thereby enhancing the employability of their graduates and meeting the needs of the agriculture sector

Table 2: *Most sought skills by the number of vacancies in manufacturing sector*



The most sought skill is Sales and marketing, highlighting the importance of expertise in promoting products and driving sales within the industry. Engineering Skills were second most sought, this shows how technical expertise and machinery handling in manufacturing processes is crucial. Business Management and leadership skills came in third showing the need for effective organizational leadership and compliance within manufacturing enterprises. Machinery operation skills show the need for technical proficiency while Numerical and financial skills were quite in demand emphasizing the importance of financial management in this sector.

Implication for job seekers: Job seekers should focus on developing diverse skills, particularly in sales and marketing, engineering, business management, plant and machine operations, and finance through relevant education and training programs. Specializing in these high-demand areas can enhance job prospects and career growth within the manufacturing industry. Keeping up with industry developments and gaining practical experience through internships or apprenticeships can also provide a competitive edge.

Implication for policy makers: Policy makers should prioritize funding and support for education and vocational training programs that develop the skills most in demand, such as sales and marketing, engineering, business management, plant operations, and finance. Policies that encourage collaboration between industry and educational institutions can ensure that training programs remain relevant and effective. Additionally, incentives for companies to provide on-the-job training can further bridge the skill gap in the sector

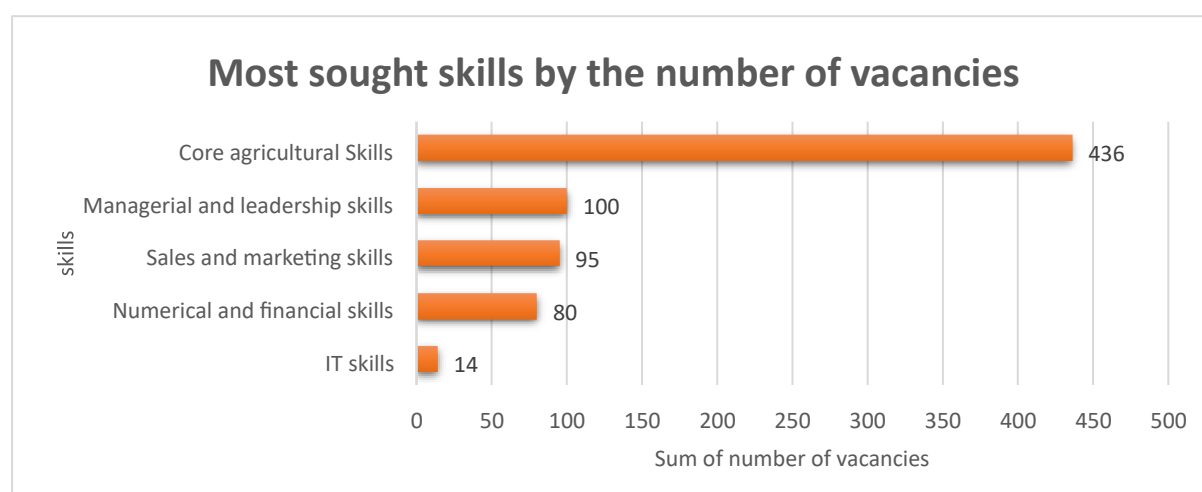
Implication for training Institutions: Developing comprehensive programs that cover sales and marketing, engineering, business management, plant and machine operation, and finance skills will better prepare students for the job market. Institutions should also seek partnerships

with manufacturing companies to provide practical training opportunities, ensuring that graduates have the hands-on experience needed to excel in their careers. Regularly updating curricula to reflect industry trends and technological advancements is crucial for maintaining the relevance of training programs.

4.2 QUARTER THREE.

What were the most sought skills by Employers in the third Quarter 2023-24? And what does it imply for a job seeker/ policy makers?

Table 3: Most sought skills by the number of vacancies in Agriculture sector

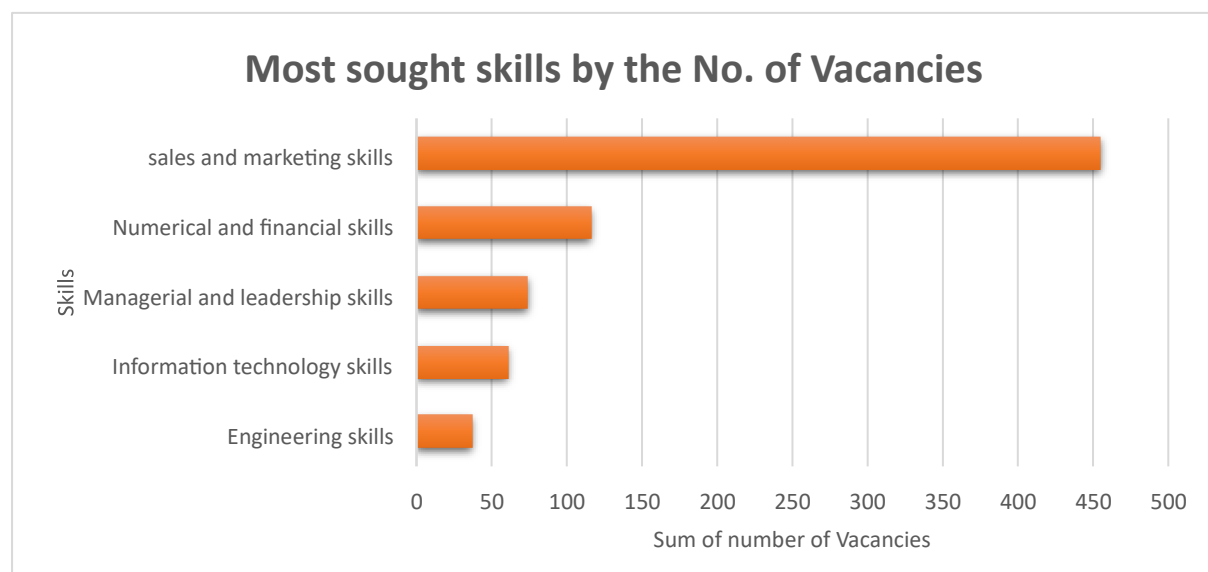


The data indicates a substantial demand for core agricultural skills highlighting the critical need for expertise directly related to agricultural practices. This is followed by a considerable demand for management skills reflecting the importance of managerial capabilities in optimizing agricultural operations. Sales and marketing skills are also in high demand, highlighting the need for professionals who can market agricultural products effectively. Numerical skills are essential for roles that require financial management within the sector. IT skills show a smaller yet notable demand, indicating a growing need for technology integration in agriculture.

Implications for Job Seekers: Job seekers should focus on gaining expertise in core agricultural practices, management, and marketing to improve their employability in the agriculture sector. Developing numerical and technical skills can also be beneficial.

Implications for Policy Makers: Policy makers should support educational and training programs that enhance agricultural skills and management capabilities. Encouraging innovation and technology adoption in agriculture can also help address the demand for technical skills.

Table 4: **Most sought skills by the number of vacancies in manufacturing sector**



For the third quarter, the data shows a significant demand for sales and marketing skills, indicating the importance of professionals who can drive sales and manage marketing strategies effectively. Numerical skills also show high demand, essential for roles involving data analysis, financial management, and quality control.

Managerial skills reflect the need for effective leadership and management within manufacturing operations. IT management and technical expertise signifies the importance of technology in manufacturing processes. Lastly, engineering skills are critical for roles involving the design, development, and maintenance of manufacturing systems.

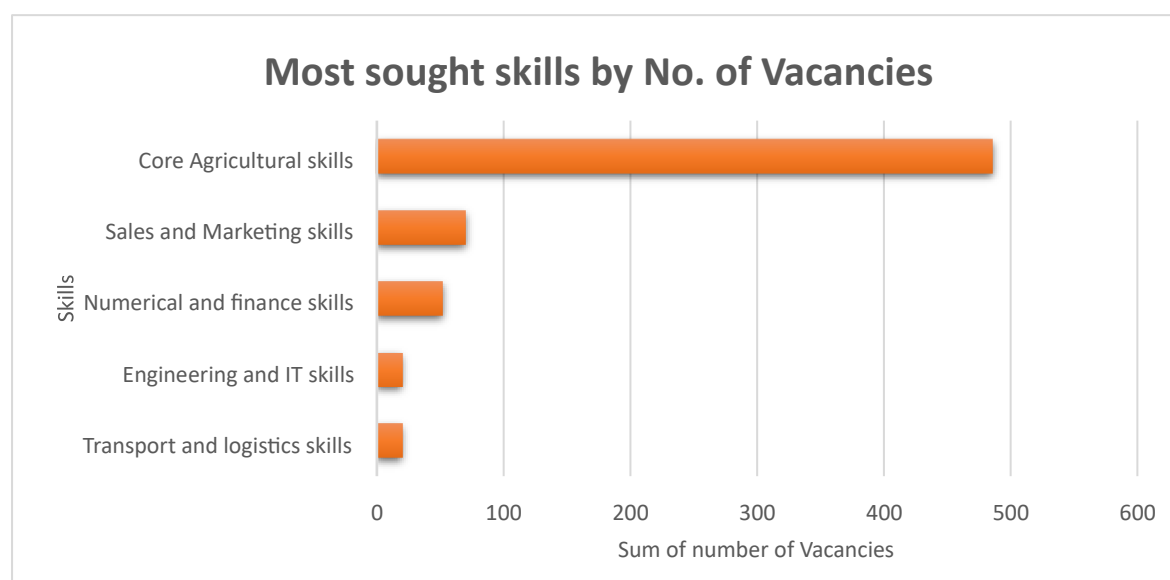
Implications for Job Seekers: Job seekers should focus on developing skills in sales and marketing, numerical analysis, and management to enhance their employability in the manufacturing sector. Acquiring technical expertise in IT and engineering can also provide competitive advantages.

Implications for Policy Makers: Policy makers should develop policy frameworks that prioritize investments in training programs that enhance sales, marketing, and numerical skills among the workforce. Additionally, promoting STEM education and technical training can help meet the demand for engineering and IT expertise in manufacturing.

4.3 QUARTER FOUR

- *What were the most sought skills by Employers in the Fourth Quarter 2023-24? And what does it imply for a job seeker/ policy maker/training institution?*

Table 5: Most sought skills by the number of vacancies in Agriculture sector



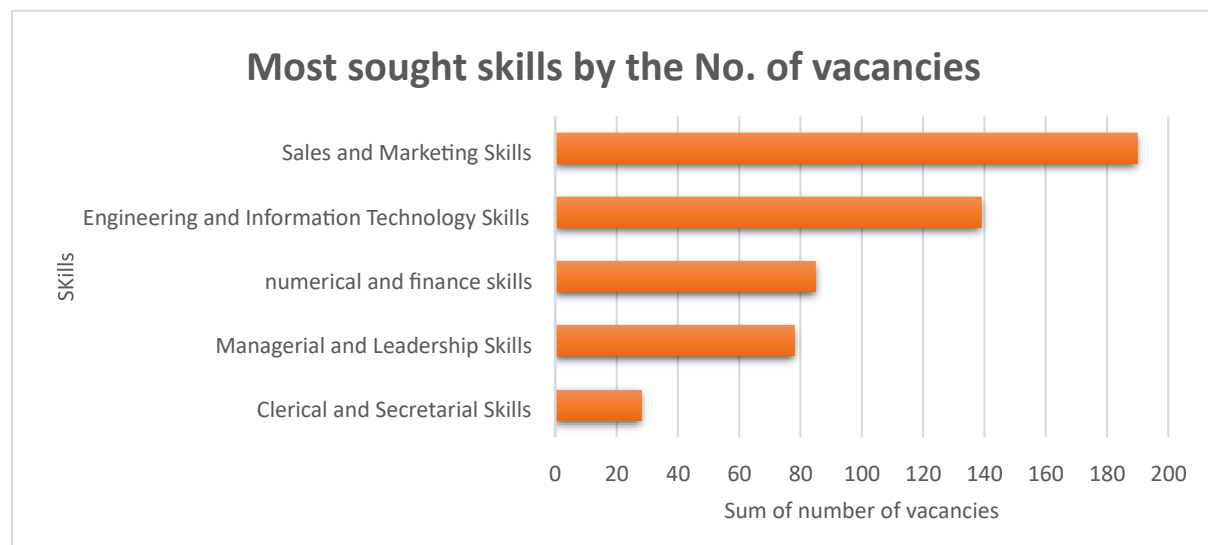
For the last quarter of 2023-2024, agricultural sector highlights a strong demand for core agricultural skills, indicating a primary need for expertise in farming practices, crop management, and animal husbandry. Sales and marketing skills are also significant, reflecting the importance of promoting and selling agricultural products. Numerical and finance skills are necessary for managing financial aspects of agricultural operations. Although less critical, transport and logistics skills are essential for efficient product distribution; while engineering and IT skills supports technological and technical needs.

Implications for Job Seekers: For job seekers, the data indicates that core agricultural skills are highly sought after, making expertise in farming practices and crop management crucial for employment in the sector. Skills in sales and marketing, as well as numerical and finance capabilities, will also enhance employability, particularly for roles related to market strategy and financial oversight. Opportunities in transport and logistics, engineering, and IT exist, but may require specialized training.

Implications for Policy Makers: This data suggests a need to prioritize support for core agricultural training programs to align the workforce with the sector's fundamental needs. Investment in educational initiatives focusing on sales, marketing, and finance skills will address emerging demands. Enhancing support for transport and logistics training, as well as engineering and IT skills, will contribute to a more efficient agricultural supply chain.

Implications for Training Institutions: Training institutions should focus on developing comprehensive programs that emphasize core agricultural skills to meet the primary demand in the sector. Incorporating modules on sales and marketing, numerical and finance skills will help students prepare for roles in market management and financial oversight. Programs should also include training in transport and logistics, as well as basic engineering and IT skills relevant to agricultural operations.

Table 6: Most sought skills by the number of vacancies in manufacturing sector



For the fourth quarter of 2023-2024, manufacturing sector reveals a pronounced need for sales and marketing skills, highlighting the importance of professionals who can drive revenue and manage market strategies. Additionally, engineering and IT skills are crucial, reflecting the sector's dependence on technological advancements and system maintenance. The demand for numerical and finance skills highlights the necessity for roles involving financial management. leadership and managerial skills are essential for effective operational oversight, while the lower demand for clerical support suggests a shift towards more automated processes.

Implications for Job Seekers: data shows the importance of acquiring skills in high-demand areas such as sales and marketing, engineering, and IT to enhance employability in the manufacturing sector. Developing numerical and finance skills will be crucial for roles involving financial management and data analysis. Strong management and leadership abilities will be valuable for those aiming to take on supervisory and strategic positions. While clerical roles have less demand, they remain important.

Implications for Policy Makers: The need to invest in training and educational programs that address the growing demand for sales, marketing, engineering, and IT skills. Support for STEM education and technical training is essential to equip the workforce with the necessary expertise. Additionally, promoting financial literacy and management training will help meet industry needs.

Implications for Training Institutions: Training institutions should align their curricula with industry demands by emphasizing programs in sales and marketing, engineering, IT, and finance. Institutions should also consider updating the courses they offer to reflect the shift towards automated and technology-driven processes in manufacturing. By focusing on these areas, training institutions can better prepare students for the current job market and contribute to a skilled and adaptable workforce

5. TRENDS AND PATTERNS

1. Agriculture Sector:

- There is a consistent demand for core agricultural skills, reflecting the sector's foundational need for expertise in farming practices, crop management, and animal husbandry.
- Sales and marketing skills are in high demand across all quarters, indicating the importance of market strategies and expanding product reach.
- Numerical and financial skills are steadily required, essential for managing financial aspects of agricultural operations.
- There is an increasing recognition of the importance of IT and technical skills, highlighting the sector's gradual shift towards technological integration.

2. Manufacturing Sector:

- Sales and marketing skills are the most sought-after, highlighting the critical role of market strategies and revenue generation.
- Engineering skills are consistently in demand, reflecting the sector's reliance on technical proficiency for maintaining machinery and infrastructure.
- Numerical and financial skills are vital, indicating the need for roles involving financial management.
- Leadership and managerial skills are essential, highlighting the importance of effective operational oversight.
- There is a notable demand for IT and technical expertise, showcasing the sector's dependence on technology.

6. RECOMMENDATIONS

1. For Job Seekers:

○ Agriculture Sector:

- Focus on acquiring core agricultural skills and practical farming experience.
- Enhance sales and marketing skills to improve product reach.
- Develop numerical and finance skills for effective financial management.
- Pursue training in IT and technical skills to stay relevant in the evolving sector.

○ Manufacturing Sector:

- Prioritize sales and marketing skills to drive revenue.
- Gain technical proficiency in engineering and IT.

- Develop strong numerical and finance skills for data analysis and financial management.
- Enhance leadership and managerial skills for operational roles.

2. For Policy Makers:

- Support educational and training initiatives aligned with the skill demands identified.
- Promote STEM education and technical training to meet industry needs.
- Encourage partnerships between industry and educational institutions to ensure training programs are relevant and effective.
- Invest in vocational training for specialized skills like heavy machinery operation and safety.

3. For Training Institutions:

- Align curricula with industry demands, emphasizing programs in sales, marketing, engineering, IT, and finance.
- Incorporate practical training and certifications in key skill areas.
- Update courses to reflect the shift towards technology-driven processes.
- Develop comprehensive programs for core agricultural skills, including sales and marketing, numerical and finance skills, and technical expertise.

CONCLUSION

The analysis of skill demands across the manufacturing and agriculture sectors in Kenya reveals critical insights into the evolving needs of the labour market. Consistent demand for core skills in agriculture and a strong emphasis on sales, marketing, and technical expertise in manufacturing highlight the importance of aligning training and educational programs with industry requirements. By implementing these recommendations, stakeholders can better align their efforts to enhance workforce development, support economic recovery, and contribute to achieving Kenya's Vision 2030 and enable the realization of Bottom-Up Economic Transformation Agenda.