



Research Paper

# Trends in Industry /Manufacturing Sector Policies: A Review and Analysis of Empirical Studies From 1990 Through 2020

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## Abstract

*This study tries to understand the dynamic trends in industry/manufacturing sector policies to track their evolution over time and suggest appropriate policies for the future of the sector. This study evaluates the various policies that have guided the industry/manufacturing across various economies and times. Of interest are the policies that guided the United Kingdom and the United States, Japan, China, South Korea, Vietnam, and Kenya.*

*The history of industrial activity in the world shows the gradual development of diversification and modernization due to applied technologies and investments in technology and research—a policy framework detailing the historical background, evolution of manufacturing policies, and legal environment. Manufacturing Industry policies are there to promote sustainable growth and international competitiveness of a country. In this study, we see the unique role Kenya plays in setting the policies for the entire region.*

*Technological trends highlight the progression of the industry towards innovative and sophisticated manufacturing technologies. Environmental sustainability trends take into account the use of eco-friendly manufacturing techniques and compliance with environmental regulations. In addition, the study deftly examines the mechanisms that encourage foreign direct investment (FDI) as well as issues with policy formulation, such as practical regulatory constraints and infrastructure gaps. The impact assessment highlights the share contributed by the industry in the Gross Domestic Product growth and the significance of the industry in the creation of jobs. In addition, the impact assessment goes beyond economic impacts and delves into the impact of the industry on the environment.*

*The study impacts scholars, policymakers, and skilled workers from the manufacturing area by providing contemporary information and tactical prediction goals for, seizing opportunities, conquering arising challenges, and creating sustainable development within Kenya's industrial society.*

**Keywords:** Manufacturing Sector Policies, Industrial Landscape, Kenya's Industrialization, Foreign Direct Investment (FDI), Sustainability Initiatives, Technology Adoption in Industry

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## Abbreviations and Acronyms

AfCFTA	African Continental Free Economic Area
COVID-19	COVID-19 pandemic
EAC	East African Community
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNP	Gross National Product
IoT	Internet of Things
IT	Information Technology
KAM	Kenya Association of Manufacturers
KIE	Kenya Industrial Estates
METI	Ministry of Economics, Trade, and Industry

MSME	Micro Small Medium Enterprise
SME	Small Medium Enterprise
STEM	Science, Technology, Engineering, Mathematics
UK	United Kingdom
US	United States

## I. INTRODUCTION

### 1.0 Background

Over time, the industrial and manufacturing sector policies and trends have changed significantly including Kenya (Onsomu et al., 2022). The trends and policies have ranged from protectionism, free trade, and market access and others that have been far-reaching in the development of manufacturing sectors in various countries. Policies have also influenced access to raw materials, labor, and other resources. Various trends and policies influenced industry trends and manufacturing policies in the US at the beginning of the last century in the various sectors including the automotive sector. Policy changes in Japan, China, and South Korea also had a great influence in the sector in the middle of the last century and the same is repeating itself in countries like India and Vietnam in recent years. Policies and trends around the environment are greatly shaping the industry and manufacturing sector, especially in the adoption of clean energy, this is the reason we have seen many countries and economies promote electric cars which will greatly affect the subsector. Climate change has also necessitated policy changes as every economy and country races toward sustainable growth and development

It is also noteworthy that there has been a steep rise in Foreign Direct Improvement (FDI), which has led to technological innovation and breakthroughs in the sustainable electricity generation sector. In addition, a lot of emphasis has been put on actions aimed at streamlining the regulatory environment with measures that break both domestic and foreign investor bureaucratic barriers. In addition to this, public-private alliances has contributed significantly to the production of an enabling economic environment (Kis et al., 2019). Green technology is a trend that many stakeholders in the industry are pushing and emphasizing with an aim of achieving the environmental sustainability goals (Kiveu et al., 2019).

The adoption of new technology in production and supply chain has enabled a lot of efficiencies in the industry which has stimulated growth. In addition, technological advancement has facilitated infrastructural development which has also spurred growth because the transport cost and transport time have been greatly reduced, therefore enabling Kenya's manufacturing industries to compete effectively in the global sphere.

## II. EMPIRICAL REVIEW

### 2.0 Overview of Industrial Landscape

#### 2.1 Historical Evolution of Industrialization

##### 2.1.1 Global Industry Trends/Manufacturing Policies

The global manufacturing industry has seen a lot of transformation in the recent past. The industry has undergone digitization of processes, and integration of technologies like the Internet of Things (IoT), artificial intelligence, robotics, and data analytics. All these changes have brought about a lot of efficiencies, increased productivity, and enabled better decision-making. In addition, there has been greater emphasis on policies that focus on the use of sustainable and eco-friendly practices.

The industry has faced several challenges including the COVID-19 pandemic which exposed the inadequacy global supply chain. This exposure resulted in a great focus and development of innovations to enhance the efficiency and resilience of the supply chain. The industry is still on an upward trajectory in terms of development.

##### 2.1.1.1 United States

The United States manufacturing sector is a big contributor to the economy and has enabled job creation, promoted innovation, and is a big driver of economic growth. The manufacturing industry has enhanced the country's competitiveness and improved the standards of living of the citizens.

The United States government has implemented several policies covering different areas including trade, and tax incentives all to improve the sector and encourage investment in the manufacturing sector. Former President George Bush championed policies that ensure workplace safety recognizing that the employee's contribution was what made the industry a success. In addition, there have been policies implemented in the education system to encourage the availability of skilled labor right from the education institutions, for example, there are training programs and initiatives to promote the learning of STEM subjects that Science, Technology, Engineering, and Mathematics. This integration into the curriculum has enabled the country to produce employees who are job market-ready.

In addition, the government aims to promote research and development in the industry by providing grants and incentives to stimulate innovation. To promote sustainability the government has implemented

policies that govern energy consumption in manufacturing processes.

#### **2.1.1.2 United Kingdom**

The United Kingdom has been working to pivot the manufacturing sector as the greatest driver of their economy. The manufacturing sector in the UK has faced a lot of challenges including the inadequacy of skilled workers, low productivity levels, the inadequacy of finances, or the lack of access to financing which has inhibited innovation and growth, and the COVID-19 pandemic that showed vulnerabilities in the supply system.

The country has noted the challenges and there plans to address the inadequacies of the sector. They have approached it from different angles including abandoning their industrial strategy and focusing on sector-specific strategies which are supposed to make the country more competitive in both science and technology on a global scale. The country plans to make significant investments as a way of incentivizing the private sector and also in support of research and development. The government has also laid a plan to help address the shortage of skilled labor, especially in engineering and manufacturing. In addition, some policies and regulations are to guide the sector in terms of sustainability and the use of eco-friendly processes.

#### **2.1.1.3 Japan**

The manufacturing sector in Japan began to progress in the 1980s and their main emphasis was on product development and performance integration. Aware of the competition present in the manufacturing sector, Japan realized their ability to thrive in this sector required them to constantly improve their production process and produce quality over quantity. For example, Toyota has continually put a lot of emphasis on improving its products which has given them a competitive edge in the automotive field.

The Japanese government has put in place various policies spelled out in the Monozukuri (Manufacturing) which is often developed jointly by the labor, science, and industry ministries. The biggest challenge however in the industry is the shortage of human capital challenges because the country has a larger percentage of its population being the aged. Therefore, the country is set to implement policies to address the human capital needs such as immigration reform, innovation, and education to enable skilled workers. By implementing the immigration reforms the country will open up itself to foreign skilled labor to help with the shortage of skilled labor. The sector is also being driven by a lot of research and development to encourage innovation and new technological development. There are also investments made by the government to encourage the upskilling of the labor force to keep up with the changing dynamics of the industry.

Negotiating trade or economic partnership agreements is a significant instrument for advancing a global strategy, according to METI (Ministry of Economics, Trade, and Industry) officials. The automobile sector offers the clearest example of the benefits associated with diversifying production locations. Trade restrictions on cars and car auto parts made in Japan and exported to the US were imposed on Japanese auto companies in the 1980s. Due to these limitations, Honda and Toyota started producing cars in the US. The Japanese car industry started producing cars in China in 2000. Currently, approximately 10 million cars are produced in Japan and 10 million in foreign markets each year, with the production split almost evenly between the two countries. This change has aided Japan's rise to prominence in the world manufacturing arena.

#### **2.1.1.4 China**

Since the leadership of Deng Xiaoping China adopted the policy of opening up, the economy opened up to the global markets and this greatly changed the direction of the Chinese economy which previously was closed, opening up provided opportunities for Chinese companies to trade internationally and for the Chinese people to also purchase commodities made from outside. The policy adopted then was government-led industrialization where the government's hand was strong in economic participation. China also came up with policies that promoted labor-intensive industries due to the advantage of plenty of labor in the market. The policies also enhanced the competitiveness of manufacturing within the country which made the country attractive to global companies that set up manufacturing hubs in the country. The synergies created by opening up the manufacturing sector led to millions of Chinese people being pulled out of poverty through engagement in gainful employment. Policies around research and development also necessitated drastic knowledge and technical and technological knowledge transfer which has been a strong pillar of the Chinese economic growth. Policies then shifted from labor-intensive to highly mechanized manufacturing and towards a consumer-led economy which is currently being adopted.

#### **2.1.1.5 South Korea**

From the 1960s South Korea Adopted policies geared towards an export-led economy that leveraged globalization. The government of General Park instituted a general committee to track the policies. The government also came up with policies to deliberately support private enterprises/ private companies called chaebol thereby creating huge businesses and especially family-owned conglomerates that spurred all the major subsector of manufacturing including companies like Hyundai, LG, and Samsung, among others. The exports of

South Korea grew by 364 times in 19 years from 1960 to 1979. These deliberate policies show how trends and policies can influence the outcomes within the economy.

#### **2.1.1.6 Vietnam**

Vietnam adopted policies of promoting labor-intensive industries which before covid made it the country with the lowest levels of employment in the world. These targeted sectors like textile and apparel, chips, and other manufacturing subsectors. The country made policies to take advantage of the decoupling crusade led by the US against China by fashioning itself as an alternative to China in manufacturing various products.

The major challenges facing the manufacturing industry are skill mismatch and low average turnover from the labor force. These challenges can be solved through the use of data-driven decision-making systems to ensure quality and efficient productivity.

#### **2.1.2 Africa**

Trends in industry policies in Africa have lagged compared to other countries and continents and this has contributed to the low performance of the manufacturing sector in influencing economic growth. The notion of comparative advantage has made African countries specialize in production that is nature-dependent and that of raw materials. Specialization in the production of raw agricultural produce and raw minerals and exporting them for value addition to other countries have consequently led to the “exportation” of quality jobs in the manufacturing sector to the importing countries.

Whereas Africa is endowed with minerals, oil and gas, and other natural resources, the trends and policies in the manufacturing sector have not been encompassing enough to incentivize value addition and manufacturing. Policies have fallen short in regards to deliberately spurring the sector to be a significant driver of the economies

##### **2.1.2.1 Democratic Republic of Congo**

It is believed that countries like the Democratic Republic of Congo have huge mineral deposits which has made the country ranked among the wealthiest countries in the world. The lack of policies and laws that would enhance value addition in the mining sector has paradoxically led to the country being rated among the poorest in the world by the measure of income per capita and GDP per capita.

##### **2.1.2.2. Nigeria**

Nigeria being among the top oil producers in the world has in many years faced fuel shortage due to lack of capacity to refine the crude oil. However, since 1990 Nigeria has made great strides in coming up with policies that protect local companies through tariff and non-tariff barriers.

These policies have led to burgeoning local industries like Dangote Group and BUA group that have made significant exploits in construction value chains and specially the manufacture of cement, and food industry like sugar and flour thereby playing a critical role in enhancing non-fuel exports and consequently playing a pivotal role in the balance of payments. The recent policies targeting the refinery of oil have made entrepreneurs allocate profits from other sectors to oil refineries. However, the policies especially of protecting the cement companies for a long period have made the prices of cement in Nigeria to be prohibitively high being among the highest in Africa. This has proven that protectionism only works better for a shorter period to make the company strong enough to be competitive in quality and pricing.

##### **2.1.2.3 South Africa**

South Africa has exceeded many African countries by having mature industries that play a critical role in economic development. The manufacturing industry has been critical in the refining of minerals in South Africa, Agricultural and food value chains part of this have made South Africa to be known for world-class wineries and food companies.

##### **2.1.2.4 Egypt**

Egypt is among African countries to make significant gains in manufacturing, predominantly in the assembly of vehicles, food, electrical, and construction industries. This has been done through a mix of public- and private-led capitalism in the manufacturing industry.

In East Africa, Kenya is the largest economy in East Africa largely shaping the manufacturing trends in the region. The East African Community through harmonization of the market has created a critical base for manufacturing products which has been beneficial in enhancing intra trade within the EAC countries.

Overall, the African Free Trade Area will play a critical role in broadening the market reach within Africa which will highly impact the manufacturing sector in Africa.

## **2.2 Structure and Components of the Sector**

### **2.2.1 Kenya Association of Manufacturers**

The Association was formed in 1959 as a private sector whose main mandate was to represent its member's views to the relevant authorities and act as an intermediary between its members and the relevant bodies. The association has also been at the forefront of championing a policy that encourages manufacturing activities and enables the manufacturing sector to participate effectively in economic growth and development by contributing largely to the growth of the GDP. KAM has over 800 entities within it, therefore constituting close to 40% of the registered manufacturing companies in Kenya.

The association developed an initiative in 2017 to encourage the growth of the number of women participants in the industry after realizing that only a small percentage were in the sector. They therefore came up with the Women in Manufacturing (WIM) initiative to help create an enabling environment for women through mentorship and apprenticeship. In addition, the initiative also provides opportunities for the women to network and therefore enhance their competitiveness locally, and globally through shared knowledge.

### **2.2.2 Kenya Industrial Estates**

Formed by the government in 1967, KIE was tasked with the mandate of promoting rural industrialization by promoting the formation and success of Micro Small, and Medium Enterprises (MSMEs) throughout the country. The organization aims to promote entrepreneurship and also enable the financing of MSMEs in the country to grow the manufacturing sector. KIE supports Small and Medium Enterprises through its Industrial sheds where the SMEs have access to a great pool of shared resources including electricity, and water among others which help them reduce production costs. The agency looks at the SMEs and MSMEs that can provide more employment to youth and prioritizes them.

The organization helps link small, and medium enterprises to large entities. This helps in nurturing small organizations. Apart from the linkages the organization nurtures small and medium enterprises in different ways including offering training, apprenticeship, and provision of start-up capital.

### **2.2.3 Industries**

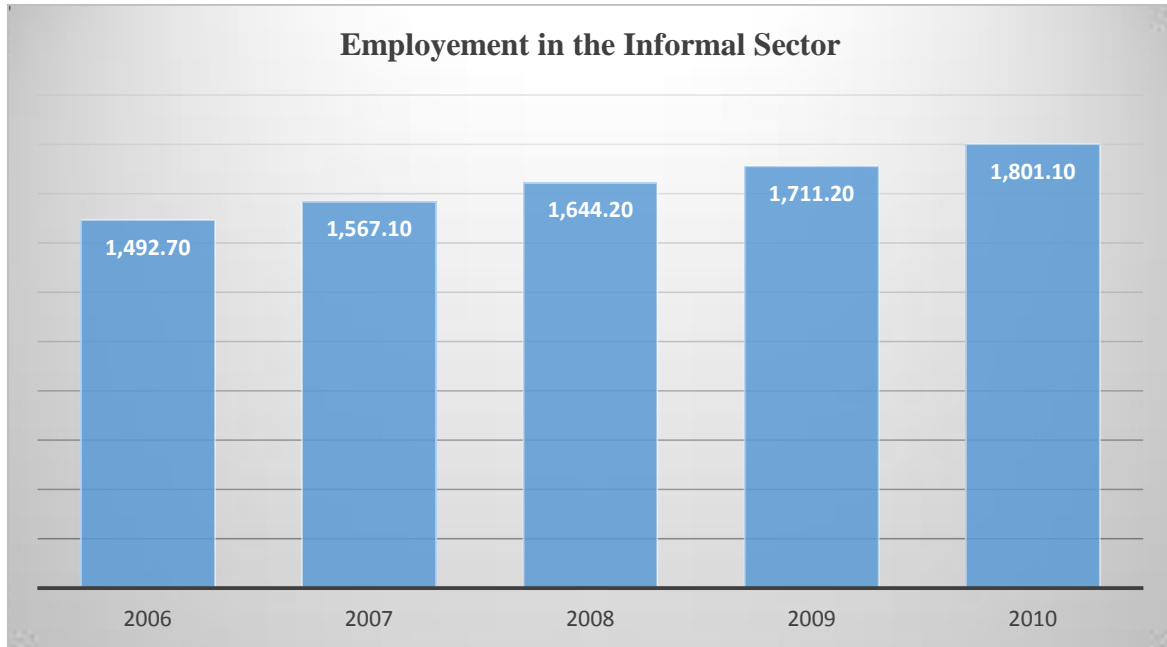
Kenya's industrial environment has seen tremendous historical change. At first, the nation's industrialization efforts were limited, concentrating on fundamental processing sectors. However, the last several decades have substantially changed toward diversification and modernization. This transition is characterized by more significant investment in technology, research, and development, which aligns Kenya with global industrial norms. The government's aggressive policies and strategic efforts have significantly impacted defining this development, creating a favorable industrial expansion and innovation climate (Oberholzer, 2020).

Kenya has several important sectors that make up its industrial landscape including Information technology, manufacturing, farming, agribusiness, and construction which have a great impact on its economic growth. The manufacturing sector has greatly grown with its sub-sectors contributing greatly to the growth of the GDP (Onsomu et al., 2022). The construction industry has grown due to significant infrastructure initiatives that aim to improve the nation's connectivity and development. The IT industry has transformed Kenya into a digital era by introducing new technologies that have greatly improved the quality of the goods produced by the manufacturing sector and the other sectors as well, therefore making the country's products more competitive in the global market.

## **2.3 Contribution to GDP and Employment**

The manufacturing sector has expanded and grown over time and therefore has had a great contribution towards the growth of Kenya's GDP and the increased employment opportunities. An essential part of driving economic growth is played by industries, which together contribute greatly to the country's GDP (Esaku, 2020). In addition, these sectors are big employment generators, employing a significant fraction of the population. The government will continue to put industry growth at the top of its priorities using strategic initiatives. Essentially, this is anticipated to result in the growth of the GDP and more employment opportunities in the industry. Figure one below shows the number of people employed in the informal manufacturing sector between the period 2006 to 2010.

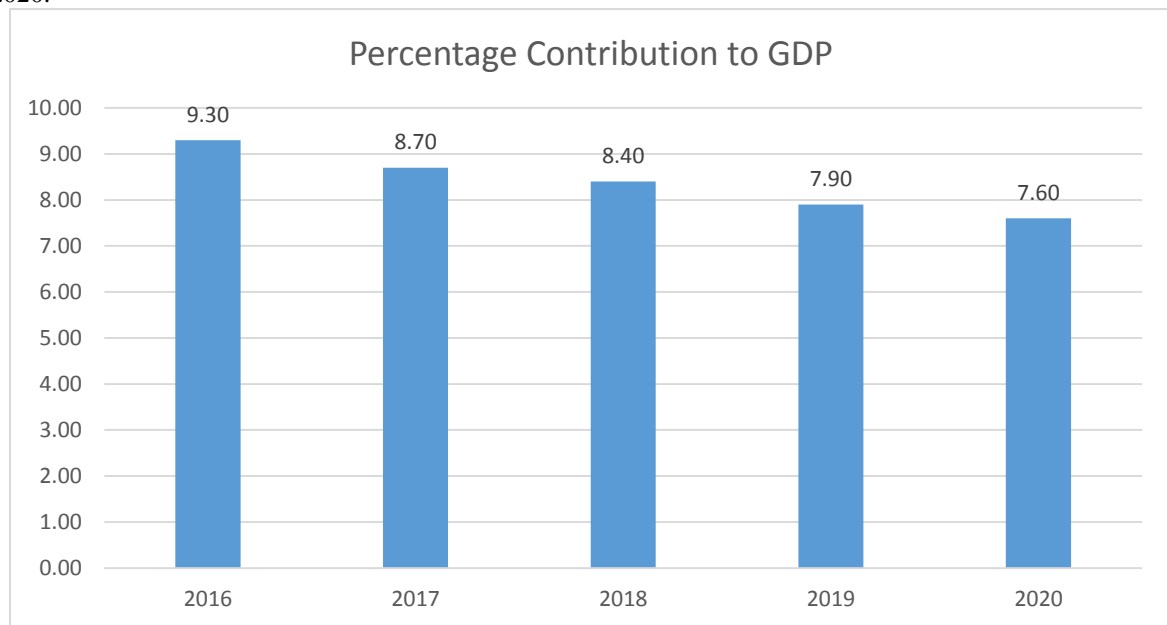




Source of data: Economic Survey 2011

The manufacturing sector has greatly impacted the economy by increasing employment for many which has increased household income. The above chart shows a snippet of the impact the manufacturing sector has had on the informal sector in terms of creating employment. The graph shows an increasing number of people employed in this sector from 1492.7million to 1801.10 million.

Figure two below shows the percentage contribution to GDP of the manufacturing industry between 2016 and 2020.



Source of data: Economic Survey 2021

The Contribution of the manufacturing sector to the GDP decreased from 2016 through to 2020. This decline in percentage could be attributed to the fact that 2016 was the period just before the election and 2017 was the electioneering year. When a country is approaching an electioneering period there is often different uncertainties that affect the different sectors including the manufacturing sector. The further decline in 2020 could be attributed to COVID-19 which saw many companies close down because of the measures such as lockdowns that affected the supply chain.

### **III. POLICY FRAMEWORK IN KENYA**

#### **3.1 Historical Context of Industrial Policies**

In Kenya, the historical backdrop of industrial policy gives insight into the country's path to prosperity. Over time, the government has continually developed and altered policies to promote industrial growth. Protectionism was prevalent in the initial post-independence era to nurture emerging businesses. However, when global dynamics and financial paradigms changed, there was a noticeable trend toward deregulation and market-oriented policies (Gebrewolde & Rockey, 2022). This historical context highlights the adaptability of Kenya's industrial policy, indicating the country's dedication to remaining current with world trends and creating an environment conducive to industrial growth.

#### **3.2 Evolution of Manufacturing Sector Policies**

According to Hassan's (2020) study, the history of Kenya's manufacturing sector policies reflects the industry's dynamic character. Initially centered on substituting imports, these programs sought to lessen reliance on foreign commodities. As a result, the emphasis switched to export-oriented policies, pushing companies to compete worldwide. The government's role has evolved from direct engagement to creating a favorable environment for private-sector growth. This adjustment in strategy reflects an alignment of strategy with global market behavior and a desire to improve the industrial sector's global competitiveness.

#### **3.3 Legislative and Regulatory Framework**

Kenya's legislative and oversight structure is essential in forming the manufacturing landscape. The government regulates licenses, environmental requirements, and labor in the manufacturing industry. Creating institutions and authorities in supervision and enforcement improves the regulatory framework (Onyango, 2021). Furthermore, periodic evaluations and adjustments show a willingness to adapt to new problems and possibilities. This solid legislative and regulatory basis strives to promote equitable company behavior, sustainable development, and the general stability of the manufacturing industry in Kenya.

#### **3.3 Current Industry/Manufacturing Sector Policies**

##### **3.3.1 Detailed Analysis of Existing Policies**

Kenya's current industrial and manufacturing strategies indicate a balanced approach to promoting long-term prosperity and global competitiveness (Mwasijaji, 2019). These policies are designed to provide an enabling climate for businesses, encourage innovation, and solve sector-specific difficulties. A detailed examination shows a multifaceted plan that considers the different demands of the country's industries. Notably, the policies highlight the significance of technological adoption, growth of talent, and environmental sustainability in driving the manufacturing industry forward.

##### **3.3.2 Identification of Key Policy Instruments**

Essential policies are critical tools for accomplishing strategic goals within the existing policy framework. Financial incentives, tax cuts, grants for development and research, and trade liberalization policies are among the methods accessible (Esaku, 2020). The government has carefully used these tools to encourage investment, foster technical developments, and increase the industrial sector's competitiveness. The collaboration of these policy tools demonstrates a coordinated effort to build a favorable ecosystem that promotes industry participants to prosper, innovate, and make essential contributions to the nation's economic progress.

##### **3.3.3 Governmental Initiatives and Strategies**

Kenya's government has implemented various efforts and policies to promote the growth of the industrial and manufacturing sectors. One example is the "Big Four Agenda," which supports manufacturing, affordable housing, health care, and food security (Amunga & Musasia, 2021). This overall policy demonstrates the government's understanding of the sector's critical role in accomplishing larger socioeconomic objectives. Furthermore, sector-specific efforts focusing on agricultural value addition, export development, and technology-driven manufacturing demonstrate a forward-thinking attitude. These efforts together indicate the government's proactive approach to leading the industry toward sustainable growth and enhanced competitiveness worldwide.

In Vision 2030 launched in 2008, Kenya identified the manufacturing industry as a key sector in its attempts to spur economic growth and development and transform the country into a middle-income, industrialized, and competitive country. The sector was also identified because of the pivotal role it can play in spurring the diffusion of technology into the economy. The Big Four agenda launched in 2017 also highlighted the role of manufacturing in the growth of the economy and highlighted the areas of focus that the government would prioritize which included textile and apparel, food and beverages, leather, timber, cement, automotive,

chemicals, and pharmaceutical. The government then, pushed for a conducive environment for investors and for the manufacturing industries to thrive to achieve each sectorial goal that had been set.

### **3.4 Global and Regional Context**

#### **3.4.1 Comparative Analysis with Other African Nations**

A comparative analysis of Kenya's location on the African continent indicates its distinctiveness on both the global and regional levels. The nation's industrial sector is notable for its variety and durability, ranking among Africa's top achievers. A closer investigation finds that Kenya has utilized its geographical location, outstanding infrastructure, and favorable financial conditions to exceed its African peers (Karambakuwa et al., 2020). The country's emphasis on value addition, inventiveness, and export-oriented efforts has propelled it to a regional manufacturing powerhouse, increasing its importance in the more excellent African economy.

#### **3.4.2 Impact of International Trade Agreements**

The vitality and competitiveness of Kenya's industrial sector are inextricably linked to international trade agreements. According to research by Manyasi (2021), the country's participation in regional economic blocs, such as the East African Community (EAC) and the African Continental Free Economic Area (AfCFTA), has improved market access and collaboration. These accords have allowed cross-border commerce, lower tariffs, and strengthened economic integration. However, challenges such as regulatory alignment and market dynamics necessitate continuous adaptation to realize the benefits of these agreements. Kenya's strategic alignment with global trade frameworks reflects its commitment to using international linkages to generate economic success.

#### **3.4.3 Global Economic Trends Affecting Kenya's Manufacturing**

Kenya's manufacturing industry operates within the greater context of global economic growth, which significantly affects the country's future trajectory. The emergence of Industry technology, worldwide disruptions to supply chains, and variations in customer tastes directly impact Kenya's manufacturing sector (Kiveu et al., 2019). Embracing digitalization and automation has become critical to remaining competitive. Furthermore, the industry must negotiate the effects of geopolitical events, such as trade conflicts and economic uncertainty, which have repercussions throughout the global economy. As Kenya becomes a significant participant in the international industrial arenas, an adaptable response to emerging economic trends becomes crucial for sustainable growth and sustainability in an interconnected world.

### **3.5 Technological Trends in the Industry**

#### **3.5.1 Adoption of Advanced Manufacturing Technologies**

Kenya's industrial sector is fundamentally changing due to the increasing use of contemporary manufacturing technologies (Kis et al., 2019). Integrating automation, artificial intelligence, and data analytics has grown crucial for improving productivity and product quality. Innovative technology is being incorporated into production processes across sectors, improving precision, cheaper costs, and higher competitiveness. Additionally, this advancement in technology not only enhances production practices but also positions Kenya's industries globally, harmonizing with current industry demands.

#### **3.5.2 Innovation and Research and Development Initiatives**

In response to the rapid rate of technological change, innovation and R&D projects have acquired significance in Kenya's industry (Kiveu et al., 2019). Companies are investing majorly in developing a culture of creativity and continual development. Collaborations between academics and industry have yielded breakthroughs, propelling product innovation and process improvement. The emphasis on R&D assures the production of cutting-edge goods and cultivates a pool of competent experts, contributing to Kenya's overall resilience and flexibility in manufacturing.

#### **3.5.3 Role of Technology in Policy Evolution**

Technology significantly impacts industrial policies' evolution (Aiginger & Rodrik, 2020). The government acknowledges technology's revolutionary potential and has incorporated it into its policy framework. Policies now address the difficulties and possibilities of changing technologies, creating a climate that encourages responsible use. Additionally, technology-driven solutions monitor and enforce regulatory compliance, ensuring that the industry follows set ethical and environmental norms. The convergence of technology and policy evolution indicates a forward-thinking attitude, placing Kenya's industrial sector at the forefront of the global technological revolution.



### **3.6 Environmental Sustainability Initiatives**

#### **3.6.1 Green Manufacturing Practices**

The industries in Kenya are currently undergoing a revolution towards environmental sustainability by embracing green manufacturing practices (Bongomin et al., 2020). Companies continue to implement greener measures as part of their production processes focused on reducing the consumption of resources, minimizing waste content, and conserving energy. With the sustainable supply of raw materials and the promotion of renewable energy solutions, the industry is moving toward international environmental standards. Using green manufacturing to minimize eco-footprints also makes industrial processes in Kenya more efficient, which means there is an environmentally sustainable and responsible system of businesses.

#### **3.6.2 Policies Addressing Climate Change and Environmental Impact**

According to Omuom (2020), Kenya is committed to environmental sustainability by formulating well-implemented policies focusing on climate change and its balanced effect on society. The regulating bodies have established regulatory frameworks that drive industries to favor eco-friendly practices, minimize emissions, and opt for sustainable waste management. These policies aim to limit the destructive impact of industrial activities on the environment and facilitate a shift towards a low-carbon economy. By setting the national objectives under global environmental strategies for climate change within Kenya's Industrial policies, Kenya demonstrates a proactive approach to dealing with climate change in its industry.

#### **3.6.3 Industry Compliance with Sustainability Standards**

Among the salient features of Kenyan eco-sustainability practices is that there has been a stronger emphasis on compliance with industry standards. Firms are also scrambling for certification from prominent environmental standards bodies, which conform to responsible business precepts. Adherence to guidelines on emissions, waste disposal, and other aspects of resource management makes the firms comply. In addition to improving environmental responsibility, compliance of industrial operations with specific standards for sustainability provides another incentive, such as winning public trust and facilitating access to its products on world markets. The industrial sector in Kenya, using stiff compliance mechanisms that include waste management practices and regulatory standards such as the ISO 1400 series, is positioning itself as a contributor to a greener and more sustainable future (Kariuki, 2020).

### **3.7 Incentives for Foreign Direct Investment (FDI)**

#### **3.7.1 FDI Policies in the Manufacturing Sector**

According to research by Rutto et al. (2019), it is evidenced in the well-crafted policies to attract FDI through its proactive investment approach in Kenya's manufacturing sector. The government policies have introduced various incentives like tax cuts. Not only did they provide regulatory streamlines, but they also supported sector-specific regulations that included foreign investors in domestic investment. These policies aim to ensure a business-friendly environment, simplify doing business, and promote knowledge transfer. Concentrating on manufacturing in FDI policies, Kenya is dealing with capital coming from abroad as well as experience and piercing of the market to drive industrial growth and raise competitive power at a global level.

#### **3.7.2 Case Studies of Successful FDI Ventures**

Case studies have shown the success of FDI ventures in Kenya's manufacturing sector. According to a survey by Oluoch (2019), key ones are global firms that have judiciously won ventures into the country, utilizing local talents and markets. These new undertakings create jobs and skill development and spearhead technology growth in this arena. It is also observable through cases when foreign investors cooperate with local enterprises that symbiosis occurs, thus generating benefits for both parties. These case studies are functional as building blocks to pave the way for informed and favorable investment strategies since they provide some yardsticks on how lucrative it was to invest in Kenyan manufacturing under FDI.

#### **3.7.3 Challenges and Opportunities**

The manufacturing sector endeavors to encourage foreign direct investment in Kenya, and the dynamism of challenges and opportunities that emerge along this spectrum is intense. According to research by Wamwara et al. (2023), facing gaps in infrastructure, problems with bureaucracy, and complications in the market encompass challenges. But all these challenges create openings for both improvement and innovation. Taking the stance of looking beyond these barriers through policy reforms and investment in infrastructure, the government had unlocked Kenya's potential to receive a high-magnitude value contribution from foreign investors into its industrialization strategy. It can be said that this development also helps position Kenya as an attractive foreign direct investment gateway due to the extent of alignment between FDI incentives and sustainable development goals. While striking a balance between challenges and opportunities is essential for developing an effective FDI environment in Kenya's manufacturing industry, getting it right requires an analysis

based on previous research.

#### **IV. SUMMARY, CONCLUSION AND RECOMMENDATIONS**

##### **4.1 Challenges and Policy Implementation Issues**

###### **4.1.1 Infrastructure Challenges**

Kenya has a persistent infrastructural challenge that tends to undermine the implementation of some policies easily because there are no suitable supporting mechanisms on either side. Insufficient infrastructure transport networks, uneven electric power supplies, and limited access to essential utilities eliminate the potential effectiveness of producing operations (Omollo, 2019). However, these infrastructure gaps have contributed to rising operational costs and created logistical challenges within the sector. Such issues need significant investments in infrastructure development, highlighting that a cooperative approach between the public and private sectors may be taken to establish a strong foundation for steady industrial progress.

###### **4.1.2 Regulatory Bottlenecks**

According to Omollo (2019), regulatory bottlenecks are a considerable obstacle to successfully enforcing industrial policies within Kenya. However, the regulatory environment is cumbersome in complex bureaucratic processes and unclear guidelines for business entities with inconsistent enforcement. Facilitating policy implementation requires streamlining and simplifying regulatory processes, as well as increasing transparency of measures undertaken by governmental and government agencies in a friendly atmosphere for businesses. Reaping the benefits of these regulatory bottlenecks will make doing business easier and create confidence among investors, which lays an embryonic platform for industrial development.

###### **4.1.3 Skills and Workforce Challenges**

The industry sub-sector in Kenya's national development has severe challenges due to skill gaps and workforce mismatch. Otherwise, with accelerated scientific and technological changes appearing one after another, it is critical to have an adequately qualified labor force ready for work on more advanced manufacturing technologies (Bongomin et al., 2020). Overcoming this issue requires an emphasis on adopting education and training programs that match the industry requirements. It can be concluded that teamwork between colleges and industries is instrumental in eliminating the skills gap, ensuring skilled personnel with appropriate technical expertise to match the current demands of manufacturing practices.

###### **4.1.4 Political and Economic Stability Issues**

Political and economic stability are crucial for implementing industrial policies, but Kenya has bouts of insecurity regarding these elements (Yakubu et al., 2020). However, such investor confidence can change as quickly as government politics and policies, while uncertainty about economic conditions may disrupt long-term planning. Robust and reliable political and economic stability is crucial for investment attraction character and anchorage. The work on strengthening governance, harmonizing policies through convergence, and improving financial stability will lay the foundation to build a favorable environment for further development.

##### **4.2 Stakeholder Perspectives**

###### **4.2.1 Interviews with Industry Leaders**

Kamuri (2021) found that to understand the emerging pattern of Kenya's industrial sector, insights from interviews with industry leaders show a convergence opinion. Industry leaders highlight government policies' positive effects on innovation, investment, and competitiveness in the global market. Their views emphasize the need to build on their public-private sector partnership and focus, among other things, on infrastructure deficits or regulatory fictions as those from shared social concerns. Furthermore, industry leaders are determined to join in support of sustainable principles whereby they recognize that there is always the manufacturing sector, and it plays well if we talk about economic growth and job creation. These interventions provide new insights into the problems and opportunities of a given industry, giving us a comprehensive range of overviews of industries' pathways.

###### **4.2.2 Views of Government Officials and Policymakers**

According to a study by Tyce (2019), government officials and policymakers emphasize a significant link between the industrial sector and Kenya's economic development. Their perspective on the issue also focuses on policy formation and implementation that would lead to the positive establishment of an environment conducive to industrial development. Policymakers acknowledge that regulatory frameworks regarding sustainability and social accountability should be well-balanced to unlock investment opportunities. Their views would also recognize the importance of maintaining an ongoing dialogue with the industry stakeholders to tackle new challenges and remain consistent with global standards. From this perspective, it is clear from the

government's agenda that socioeconomic goals will be achieved through cooperation with the manufacturing sector.

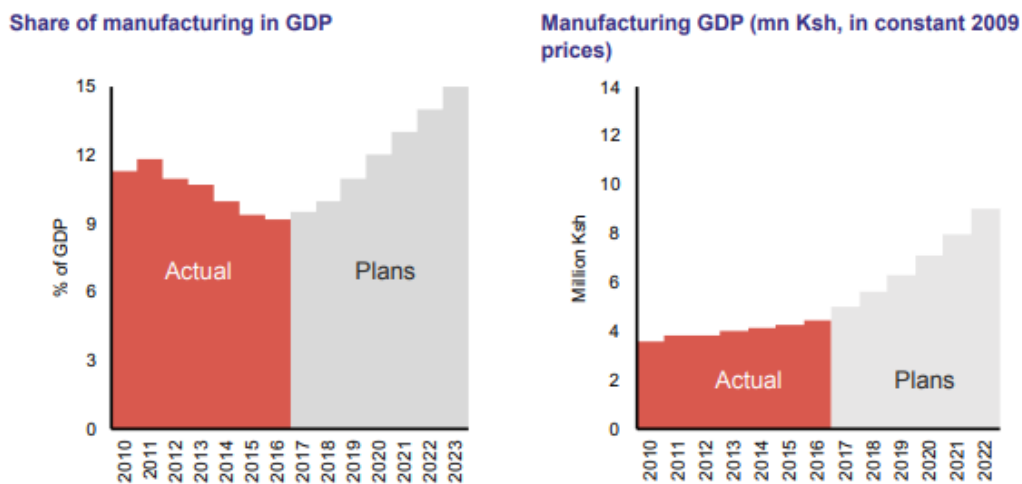
#### 4.2.3 Perspectives of Workers and Local Communities

In this way, insights gleaned from the points of view of workers and local communities about their lives reflect how humanity is generally affected within industrial societies. Workers emphasize the need for proper skills, ethical labor measures or requirements, and a safe workplace environment (Carol & Florah, 2019). From their point of view, we may see the need to create policies specifically intended to include employees' well-being and job security. Local communities highlight both the benefits and downsides of industrial practices, stressing the need to develop new standards, sustainable development practice opportunities, and lack of business activities, limiting competitiveness capabilities. These viewpoints show how the industrial sector is highly interconnected to the broader social structure and demonstrate that a well-balanced, mutually beneficial industry landscape requires stakeholders' involvement.

### 4.3 Impact Assessment

#### 4.3.1 Economic Growth Indicators

The economic growth through the Industrial Sector in Kenya shows significant impacts due to the revealed contributions. According to research by Naftaly (2021), several critical factors, such as GDP growth awareness, industrial output, and export earnings, which drive overall economic activity, are determined in this sector. Participation of the manufacturing sector in GDP shows that the production level was massive and impacted other related industries and services, as shown in Figure 1 below. Therefore, the manufacturing sector and associated activities represent an economic vitality index for various countries. Moreover, this is because, compared to other sectors in a country's economy, no industry has shown more tendency to stimulate development than this particular setup since, after assuming processes such as diversification, nations enjoy stable growth on their gross domestic products (GDP).

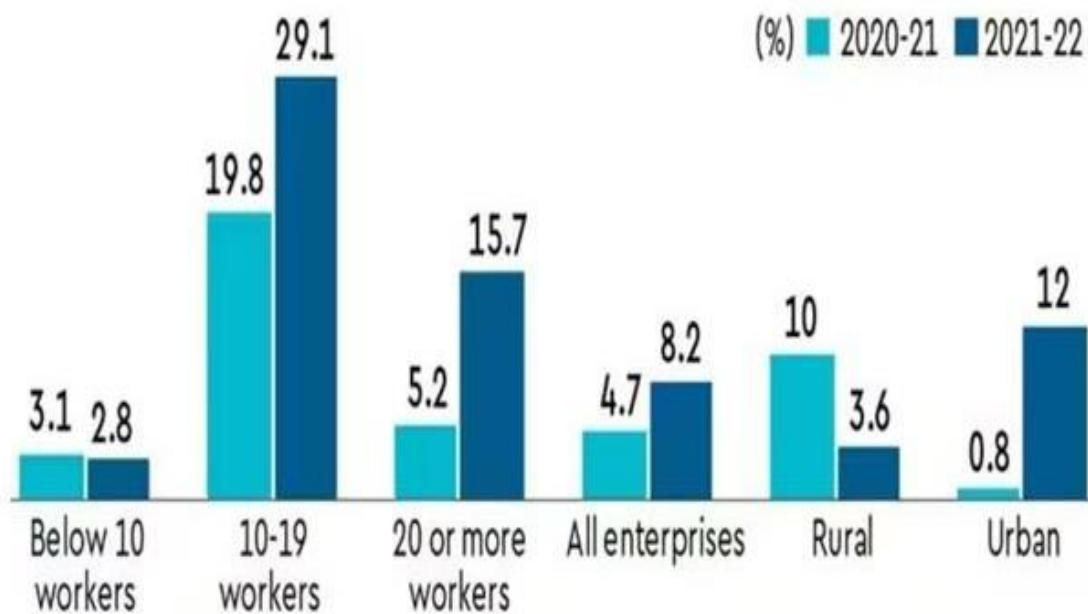


**Figure 1:** Share of manufacturing in GDP alongside Manufacturing GDP (mn Ksh, in constant 2009 prices).

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#### 4.3.2 Employment Generation and Skills Development

According to a study by Esaku (2020), a notable positive effect of the industrial sector in Kenya is employment creation and skills development. The industry also plays a significant role in employing people as it opens up employment opportunities for different skills, whether technical or managerial, as illustrated in Figure 2 below. The creation of employment reduces a large proportion of poverty and improves people's living standards. In addition, the demand for skilled labor drives ongoing skills development initiatives to ensure the continued adaptability of that workforce to technology and industry trends. This dual effect highlights the sector's role in human capital enhancement and socioeconomic empowerment.



**Figure 2: Growth Rate in Manufacturing Employment.** Retrieved From <https://zoetalentsolutions.com/manufacturing-industry-employment-statistics/>

#### 4.3.3 Social and Environmental Impacts

The industrial sector significantly contributes to the nation's economic development, but an impact analysis should also focus on social and environmental consequences (Dal-Maso et al., 2019). In the social aspect, the industry improves life quality through employment creation, leading to improved living standards and neighborhood developments. However, evaluating ecological impact must address pollution, natural resource depletion, and ecosystem damage. Sustainability, observation of environmental regulations, and CSR initiatives deflect adverse effects; the industrial sector provides input toward broader objectives concerning conservation programs and socioeconomic improvement. The need to preserve a given sector's long-term sustainability and the favorable social component requires it to balance its economic growth with responsibility towards society and nature.

#### 4.4 Future Prospects and Policy Recommendations

##### 4.4.1 Anticipated Trends in Industry/Manufacturing Sector Policies

Several anticipated policy development trends are accompanied by the prospects of Kenya's industrial and manufacturing sectors. With higher efficiency and competitiveness, digitalization and intelligent manufacturing will be the implementation focus. Planned policies could also aim at sustainability but with greater emphasis on green manufacturing techniques and compliance with global environmental standards. Furthermore, policies are likely to promote collaborations in R&D to promote innovation within the industry. Introducing the principles of the sector and a proactive approach to global economic dynamics are expected to determine future policies by providing resilience and adaptability in manufacturing activities (Muteshi et al., 2018).

##### 4.4.2 Recommendations for Policy Improvement

Several suggestions can be taken to apply to improve the efficiency of industrial policies in Kenya. Streamlining regulatory processes and reducing bureaucratic blockages will enhance the ease of doing business. Consistent interaction with industry actors, such as firms, trade associations, and research bodies, is required to obtain different views and refine the right policies. Insufficient investment in crucial infrastructure, such as transport and energy, is yet another problem that needs to be addressed by policies since industries suffer. However, policy coherence across sectoral areas and adherence to global standards will lead to a favorable business environment and long-term economic growth and development (Zhou & Ji, 2021).

##### 4.4.3 Strategies for Overcoming Challenges

A challenge faced in Kenya's industrial sector requires a multidimensional approach. Investing strategically in infrastructure development to address challenges with transport and energy is critical. The workforce challenges will be handled by introducing integrated programs for comprehensive skills development

providing a pool of skilled personnel. Additionally, actively interacting with regulatory agencies to streamline and tidy up regulations will allow us to manage bureaucratic impediments. Political and economic stability should be ensured to ensure investor confidence supported by transparent governance and consistent policies. The collaborative efforts of the government, industry players, and local communities will help the sector's resilience, enabling it to navigate its way through challenges while capitalizing on available opportunities for continuous growth (Cai et al., 2019).

#### **4.5 Conclusion**

Finally, through strategic policies and more FDI coming into Kenya, the industrial sector, particularly manufacturing, has displayed an all-time high level of growth. The diachronic development depicts a turning away from monadic, technology-reliant sectors to generate millions of jobs and an enormous GDP. In general, new policies are oriented toward adaptiveness to global trends, manifest in the use of technology and the development of skills, and adoption towards sustainability. International trade accords and world economic features illuminate Kenya's peculiar African situation. The thorough adoption of green practices in connection with sustainability standards is manifested in the commitment by this sector towards environmentally sustainable development.

Additionally, this has seen the motivation of foreign direct investment reap success cases; however, the arguments remain, with inadequate infrastructure being a major one among others. From a stakeholder's point of view, collaboration and sustainability factors are recognized. However, the impact assessment identifies benefits to economic growth, employment, and social development and negatively impacts people, power plants, water, farmlands, salary, poverty, and health. For the future, expected trends focus on digitalization, sustainable economics, and collaboration. Suggestions include accurate and easy rules, construction investments, transport network development, and harmonized policies. Solution strategies include the development of infrastructure investment, skills programs, and collaboration capital. The country's industrial industry, supported by such strategic policies and world integration, can continue its rapid developmental progress, with challenges being sources of innovative solutions. Collaboration among the stakeholders continues to be invaluable for an egalitarian and productive industrial terrain.

With the perpetual growth of manufacturing as a pioneer in Kenya, this pinpoints the continuous scrutiny of regulatory change. However, with sustainable growth and evolutionary development, the skeleton of rules naturally accommodates diverse challenges that shift shape depending on technological innovations or global economic trends. Failing to keep up with these regulatory changes actively is crucial for manufacturers as they learn how such developments might ensure their compliance, risk minimization, and adoption of strategic opportunities. In Kenya's manufacturing community, there is a very high level of interconnectedness with the different policies that regulate sectors like licensing systems, environmental standards, and aspects of employees, among others.

These regulations must, therefore, be understood subtly and nuancedly given that the objective is not only legal loyalty but also involves managerial decisions altogether, transforming it into part of the strategy. Not putting efforts into understanding and adapting to the changing rules of regulation, businesses are at risk of facing legal consequences while hindering their operations efficiency level, as well as blocking development opportunities brought by this industry. Thus, this engagement in terms of a continued commitment to understanding regulatory changes becomes one fundamental aspect of the strategic approach for any manufacturing enterprise and helps compliance promote adaptability & and develop sustainable growth through Kenya's growing yet complex, rapidly shifting environment.

How can alternative financing methods, such as corporate bonds, be promoted to the manufacturing sector to promote its growth? Since the available financing models fall short of addressing the needs of many manufacturing companies especially those at nascent stages. There needs to be a deliberate focus on formalizing the informal manufacturing sector. This would help in tracking their performance empirically therefore making it possible for the government to come up with policies that are data-driven to spur their growth and to contribute more meaningfully to the overall economy. Financial institutions especially banks should also be compelled to advance financing to the manufacturing sector by having it as a condition for the renewal of a license to have advanced a certain percentage of their loan book to the targeted sector.

Kenya and Africa at Large must move from the specialization of production of raw materials and deliberately align policies that enhance value addition in manufacturing. The ratification and adoption of collaboration within the trading blocs within Africa and the adoption of the AFRICA Free Trade Area should play a critical role in aligning manufacturing policies within the member states. Policies should be made to enhance specialization by African States to produce targeted products within the manufacturing sector as this would lead to consolidation of technology and efficiencies thereby enhancing intra-trade within African states which would lead to the growth of specific countries' economies.

Manufacturing policies must be made not just to shift manufacturing to the assembly of vehicles but also to the manufacturing of the vehicles and parts themselves. With the discovery of various minerals that



could be used in technology gadgets, Kenya must craft policies that would incentivize the manufacturing of phones, CHIPS, and other technology-related products since they are high-value and offer quality jobs.

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