

# How to grow manufacturing and create jobs in a digital economy

## 10 policy priorities for Kenya

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### Key messages

- A rapidly changing global manufacturing landscape presents both important opportunities and challenges for Kenyan manufacturing and job creation.
- Interviews suggest digital technologies help firms to create efficiencies in production, which can increase their total factor productivity, leading to higher output and exports and creation of new jobs linked to these exports.
- Complementary policies are crucial in maximising productivity and employment gains from digitalisation. We present a policy framework containing 10 policy areas aiming to (i) build digital capabilities; (ii) foster competitiveness; and (iii) deliver an inclusive and accountable digital change process.

### Introduction

The global manufacturing landscape is changing rapidly with the increasing use of digital technologies such as robotics and artificial intelligence, presenting both important opportunities and challenges for Kenyan manufacturing and job creation. While Kenya has emerged as a leader in terms of digitalisation in the African context, there is still a significant digital divide within Kenya when compared to developed countries and some Asian economies, in terms of both access to and use of such technologies. At the same time, there are growing fears that rapid digitalisation might hamper job creation efforts, particularly in the manufacturing sector. In a new digital context, briefing provides a policy framework and discusses what needs to be done in 10 policy areas to grow Kenyan manufacturing and create jobs. Some policy areas are well-known, but others are new and radical.

### Digitalisation, manufacturing and employment in Kenya

Amid the many opportunities associated with the use of digital technologies in Kenyan manufacturing, one issue causing concern is the impact on labour. Since manufacturing forms part of Kenya's 'Big Four' agenda, primarily due to its job-creating potential, the implications of growing digitalisation, both within Kenya and globally, bring into question the very role of manufacturing as a

development pathway towards employment generation. However, based on analysis and firm-level interviews, we argue that digital technologies can help firms to create efficiencies in manufacturing production, which can increase their total factor productivity, leading to higher output and exports as well as creation of new jobs linked to these exports. Appropriate policies need to be developed to ensure that Kenya can maximise productivity gains from digitalisation and, through the efficiencies created, can realise large-scale employment gains. Digitalisation will also increase demand for workers in services sectors such as maintenance and repair, delivery and postal services, along with changing the nature of work through digital platforms and rise of online work.

### Policies for a digital industrial transformation: what's new?

Kenyan manufacturing firms face many well-known constraints to greater digitalisation, including (i) high cost of capital, (ii) high cost of electricity and unreliable power supply, (iii) lack of available credit, (iv) high prices of raw materials, (v) lack of relevant skills, and (vi) poor customs and logistics procedures.

However, to achieve digital transformation, policies in Kenya need to not only address these challenges but also build digital capabilities. Digital technologies are

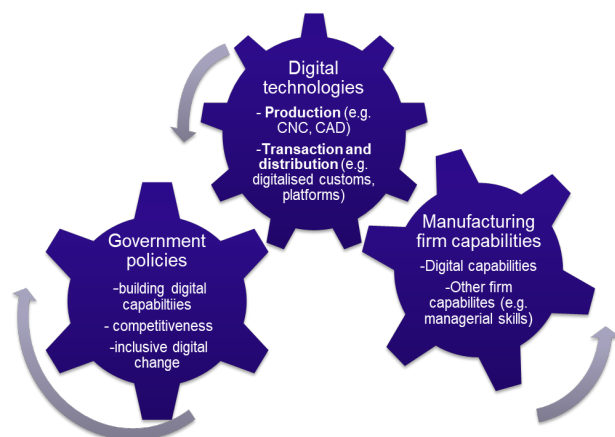
increasingly affecting not only manufacturing production but also re-ordering manufacturing through digital platforms and use of mobile currency such as M-Pesa. This highlights the urgent need for a targeted approach to digitalisation, whereby developing countries adopt specific policies to leverage the digital economy, even when it may not fit with their comparative advantage as of now. Comparative advantage is a dynamic concept, which can be shaped by appropriate digital industrial policy.

Our study suggests targeted interventions for building digital capabilities: improving access to information and communications technology (ICT) goods and services; encouraging innovation and research; updating laws on data localisation, protection, source-code sharing and intellectual property; and using global and regional approaches to digital trade. Currently micro, small and medium enterprises (MSMEs) are the least prepared for building digital capabilities; only 20%-40% of MSMEs have an IT policy in place, compared 77.5% of large firms. Moreover, while 95-99% of small and medium firms have access to internet, less than 65% of these firms have a web presence and less than 25% are using cloud computing.

Addressing challenges pertaining to high cost of capital, electricity and infrastructure can also increase competitiveness in digital economy. And it is important that digital change occurs in an inclusive manner.

Figure 1 shows the interdependencies between (i) digital technologies, (ii) government policies, and (iii) firm capabilities. *Digital technologies* in production can directly affect efficiency of manufacturing, while those in transaction and distribution can have an indirect impact through government policies. *Government policies* for a digital industrial transformation are divided into those that aim to (a) build digital capabilities; (b) foster competitiveness; and (c) deliver an inclusive and accountable process. *Firm capabilities* are divided into digital capabilities and other capabilities.

Figure 1: Linking government policies, digital technology and manufacturing capabilities



*Policies for building digital capabilities*

1. Improve access to the internet and digital technologies through infrastructure sharing. Kenya’s internet covered only 26% of the population in 2016. Internet tariffs are 15% higher than in Ghana, and twice those in Ethiopia.
2. Build and improve data infrastructure through sector-specific laws on data localisation, source-code sharing, and intellectual property rights, and address constraints to development of local data centres.
3. Improve firm-level capabilities by encouraging innovation, R&D and efficient resource utilisation. Kenya and the East African Community should create a register for digital-related trademarks.
4. Support a well-embedded manufacturing ecosystem of start-ups and technology hubs, and encourage public-private collaborations for digital hubs.
5. Use regional and continental approaches to e-commerce and trade in digital products and services.

*Policies to foster competitiveness in a digital economy*

6. Lower the cost of capital by reducing interest rate spreads through cutting inefficiencies and lowering collateral requirements for investment in digital products. Establish windows in development banks for digital investment.
7. Lower the cost of electricity to 9 cents per kWh and secure reliable power supply through better e-governance, investing in renewable energy and digitalising the electricity sector.
8. Improve transport infrastructure, postal competence and trade logistics, all of which are important for increasing market access, including through digital platforms. Digitalisation of border procedures and transport corridors are important.

*Policies for managing inclusive digital change in manufacturing*

9. Target skills development to increase absorptive capacity and capabilities of the workforce. Showcase how firms have successfully acquired digital skills, especially for the young and women.
10. Focus on problem-driven governance to create a digitally enabling environment with flexible institutions, better dialogue and permissive regulatory practices. Targeted actions need to address investor problems.

References

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