Opportunities, Challenges and Recommendations for Digital Platforms and Manufacturing for Development

Introduction

This summary report is based on discussions at the Workshop "Digital Platforms and Manufacturing for Development", which was held online on March 3rd, 2021 and organized by GIZ and the MÜNCHNER KREIS. The workshop was split into two focus areas: (1) presentations from leading digital manufacturing platforms in China, and (2) the possibilities for applying such platforms in developing countries, especially in Africa. Both focus areas were guided by leading experts presenting specific solutions, use cases, and approaches, leading to an exchange that explored current challenges and potential opportunities to provide recommendations for the conceptualization, development, and implementation of manufacturing platforms.

Opportunities

- Platforms typically change the value chain model by linking buyers and sellers and other including relevant stakeholders leading to **efficiency and effectiveness** gains.
- Organizations that are digitalizing and becoming more **data driven** can improve their efficiency, effectiveness, and quality. Decisions based on data will be more accurate and will allow for planning and forecasting.
- The **ecosystem** for manufacturing platforms in Africa is still nascent and hence many opportunities for growth still exist.
- Digital tools can help address **skills gaps** through the use of smart devices.
- The **African Continental Free Trade Area** (AfCFTA**)** can drive the focus on African centers of excellence hubs (e.g., South Africa for cloud storage), and grow demand to make local production and development more viable. The existing local computer networks can, in many instances, be sufficient to support the digital upscaling of enterprises. Larger investments to purchase new network hardware to enable digital growth are therefore not always necessary.

Challenges

- Platforms typically grow through network effects, leading in some cases to dominant suppliers.
- Simply trying to replicate platform business models from one region into another (such as from China to Africa) without paying adequate attention to local cultural factors can lead to failure. In the African context in particular, there is a strong sense of human interaction building **trust**. Digital solutions will need to remain personal to ensure uptake from the local population.
- Finding the right employees with the right **skills** remains a core concern. Young people might not have access to the necessary on-the-job training, and experienced workers are rare and might not be affordable for local businesses.

Recommendations

- **The development of local ecosystems is crucial for the development of successful platforms.** To develop such systems, a dialog with the government to promote the development of the local ecosystem by creating the required infrastructure, a trustworthy legal and regulatory framework, sustainable supply chain channels, and access to financial support.

- Providing for and supporting the development of **educational institutions** in the area of digital platforms and manufacturing together with the government to leverage financial support and to ensure that certificates of such education can be issued and will be recognized.

- **Triangular cooperation** between developed countries like Germany, advanced developing countries like China or South Africa, and developing countries can lead to an exchange on best practices, aiming to avoid former mistakes and jumping straight to the best-in-class solution. To be successful, solutions must be adapted to the specific phase of digitalization that the country or region has reached and also to local cultural, social, and demographic factors.

- Policy makers should articulate a **development agenda** for digital manufacturing platforms to promote ecosystems.

- **Local platforms** must be given air to grow and become competitive before large outside corporations enter the space. The risk of monopolies or market dominance by platforms from developed countries should be carefully assessed. This can be done through regulations, but also through exploring the competitive advantage of local know-how and skills (e.g., language skills and understanding of cultural behavior).

- **Collaboration** with local platforms and international businesses for manufacturing platforms can be strengthened to develop skills, trainings, and cooperation opportunities.

- Beyond the focus on the government, **industry bodies and associations** can also be a major support function for a digital manufacturing platform economy. They can help to build skills as well as provide seed funding to build required capacities that can interoperate with and enhance existing solutions.

- In summary, appropriate framework **and policy conditions** for manufacturing platforms must be created, including:
  - Developing the necessary IT infrastructure for digital platform development
  - Developing skill for digital platforms in manufacturing inside companies through continuing education.
  - Supporting educational institutions in the area of digital skill development with, e.g., government subsidies, grants, certifications in cooperation with companies and other recognized institutions, such as trade associations
  - Establishing dedicated funds for investing in local start-ups that develop digital platforms and manufacturing for development
  - Learning from companies in other countries that have developed digital platforms and manufacturing technologies.