

# Chapter 12

## The Dynamics of the Global Value Chains and Disruptive Technologies: Potential and Trends in Africa

**Michael Oluwaseun Olomu**

*National Centre for Technology Management (NACETEM), Nigeria*

### ABSTRACT

*The advents of GVCs and disruptive technologies have provided alternative paths to industrialization and economic development for African countries, and with the transformation to digitalization now well under way, another conceptual shift is required to understand the evolving role of disruptive technologies in GVCs. It is evident that technological breakthroughs in the global markets have a spillover effect in the structural settings of African economies value chains, as lower tariffs and rapid technological changes have fragmented production across borders, but some African countries remain marginalized in GVCs. This study, therefore, attempts to preliminarily explain how African economies and markets capture value from disruptive technologies and create their competitive advantages within the global value chains context from the perspective of business-model innovation practices in African markets. Thus, developing African firms should not ignore those disruptive growth opportunities within the large population of mass customers and non-consumers in emerging economies.*

### INTRODUCTION

The digital economy and the new industrial revolution are fundamentally transforming the way firms operate internationally. In recent years, disruptive innovations and internationalization of firms from developing economies have attracted growing attentions in the area of innovation, new technologies, markets and management. Over the last few decades, emerging economies are prominently playing the role of being main driver for growth and market development to the world at large (Wright, Hoskisson and Peng, 2005; Hoskisson, Eden and Wright, 2002). However, in Africa, some firms have strategically

DOI: 10.4018/978-1-7998-0361-4.ch012

adopted disruptive technologies from developed economies through business-model innovations and more so, the global value chains (GVCs).

Notably, the sudden occurrence of COVID-19 across the world has enlarged profound fault lines in the functioning of GVCs and uncovered the fragility of the model characterized by high interdependencies among leading firms and suppliers located across several regions. This further revealed all the insubstantiality to external shocks which led to parallel variability affecting production costs and make it difficult for businesses to recommence on a global scale, thereby leading many firms to reduce or stall their production activities. Intangible business operations such as research and development, design, marketing and branding, centered on unique resources and capabilities are largely still performed in headquarters, generating superior returns, often in the form of rents due to the pandemic.

Meanwhile, disintegration in production system of the GVC is driven by technological change, cost, resource availability, markets, pandemics and trade policy reforms, and determines the shape of African business economies. With the growth of GVCs and disruptive technologies, African economies and markets are becoming more interrelated and they are gradually focusing in different functions, activities and phases of value chains. In GVCs framework, innovations are typically described as economic advancement and enthusiasms of firms to improve the gain they generate and grab from the activities in GVCs (Gereffi, 1999). Firms with intensive technology often abandon innovations centered on disrupting technologies that produce novel products and offer potentials for competitive advantage (Kassicieh, Kirchhoff, Walsh and McWhorter, 2002).

However, the ability of the GVCs to create knowledge spill-overs and the role it plays in economic development cannot be over-emphasized. For instance, China has controversially deemed its economic success to be evidence of the advantage gained through collaboration with external firms within GVCs (Marisa, 2017). More so, the successful distribution of COVID-19 vaccines across many African countries is another notable evidence that China, United Kingdom, Russia, India and other developed countries have further gained advantage even in the face of the pandemic. The China's Sinopharm and Sinovac vaccines, UK's AstraZeneca, Russia's Sputnik and Covaxin from India are some of the vaccines recently been shipped into African economies to cushion the effects of COVID-19 pandemic.

In other hand, GVCs have been a vital feature of technologies for a few decades and have changed the way firms design, produce and distribute services. GVCs have also led to successful incorporation of disruptive technological developments which have undergone a dynamic process of globalization and have been crucial and continue to impact GVCs growth. In addition, GVCs are therefore populated by a constellation of experts and actors collectively responsible for bringing disruptive technological services to the African market and enable service providers.

Notably, cross-border market, trade, investment, technology and GVCs are seen as the engines of growth in a global economy (Jeffrey and Romero, 2018). This development has stimulated African businesses and Governments around the world to constantly extend their networks through free trade agreements and have direct access to markets across international borders. GVC is thereby seen as an array of processes or activities undertaken to show that a particular kind of product or a particular kind of service gradually through the conception to final stage, and consequently distributed across international boundaries (Sean and Aditi, 2018). More so, GVC focuses on the full range of activities from the conception, through the phases of production to its end use and beyond of a product or service.

Nevertheless, dwindling costs of services, technologies advancement and relatively easy transferability of inputs and components across countries have made it easier for proper coordination of production processes. More so, the possibility of companies to monitor their various stages of production process

13 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/the-dynamics-of-the-global-value-chains-and-disruptive-technologies/280767](http://www.igi-global.com/chapter/the-dynamics-of-the-global-value-chains-and-disruptive-technologies/280767)

## Related Content

---

### Towards a Conceptual Framework and Research Agenda for Immigrant Entrepreneurs, Entrepreneurship, and Enterprises

Carson Duan (2023). *Journal of Business Ecosystems* (pp. 1-24).

[www.irma-international.org/article/towards-a-conceptual-framework-and-research-agenda-for-immigrant-entrepreneurs-entrepreneurship-and-enterprises/322774](http://www.irma-international.org/article/towards-a-conceptual-framework-and-research-agenda-for-immigrant-entrepreneurs-entrepreneurship-and-enterprises/322774)

### Financial Education and Inclusion: Fundamental Aspects for Success of Entrepreneurs

Omar Alonso Patiño Castro (2018). *Handbook of Research on Intrapreneurship and Organizational Sustainability in SMEs* (pp. 140-162).

[www.irma-international.org/chapter/financial-education-and-inclusion/202619](http://www.irma-international.org/chapter/financial-education-and-inclusion/202619)

### Value Creation Process

(2015). *From Manufacture to Mindfacture: A Relational Viable Systems Theory* (pp. 100-126).

[www.irma-international.org/chapter/value-creation-process/122927](http://www.irma-international.org/chapter/value-creation-process/122927)

### Cultural Management for Multinational Enterprises

Christian Zuberand Hans-Christian Pfohl (2017). *Organizational Culture and Behavior: Concepts, Methodologies, Tools, and Applications* (pp. 1731-1763).

[www.irma-international.org/chapter/cultural-management-for-multinational-enterprises/177649](http://www.irma-international.org/chapter/cultural-management-for-multinational-enterprises/177649)

### Developing a Taxonomy for Identifying Stakeholders in National ICT Policy Implementation

Frank Makoza (2019). *International Journal of R&D Innovation Strategy* (pp. 44-65).

[www.irma-international.org/article/developing-a-taxonomy-for-identifying-stakeholders-in-national-ict-policy-implementation/250273](http://www.irma-international.org/article/developing-a-taxonomy-for-identifying-stakeholders-in-national-ict-policy-implementation/250273)