Chapter 18
Improving Productivity by Adopting Existing Technologies and Sustainability

Hugo Ferreira Braga Tadeu
Innovation and Entrepreneurship Centre, Brazil

Jersone Tasso Moreira Silva
Universidade Fumec, Brazil

ABSTRACT

Economic blocs such as BRICS and MIST are facing decreases in GDP, high interest rates, and a drastic reduction of the productivity of companies. Innovative strategies and new business models have to be considered as a way to improve productivity and reduce operational limitations. Digitalization technologies are altering the structure of competition, productivity, job creation across emerging and developed economies, the conduct of business, and ultimately, performance across industries. The goal of this chapter is to provide insight and stimulate discussion among all stakeholders about the best strategies and policies to help BRICS and MIST to overcome the obstacles and improve competitiveness. In this study, the authors applied the PICAM method in order to estimate the influences of the three pillars from the WEF Global Competitiveness Report that specifically contribute to competitiveness, innovation, and technology analyses, observing digitalization investment opportunities for BRICS and MIST. The results have shown that BRICS and MIST lack investments in technological readiness, business sophistication, and innovation. They conclude that companies can still improve productivity by adopting existing technologies or making incremental improvements in other areas; for those that have reached the innovation stage of development, this is no longer sufficient for increasing productivity.

INTRODUCTION

The financial crisis of 2008/2009 dragged down the entire global economy and many economies around the world are still struggling to ensure that economic growth is equitable and provides benefits for their entire populations. Advanced economies have not yet reached their full potential and they struggle with persistently high unemployment, rising inequalities, and fiscal challenges. Emerging markets and

DOI: 10.4018/978-1-5225-3012-1.ch018

developing economies are facing stronger headwinds than before and need to adjust their development models to ensure economic growth and a more broad-based distribution of gains.

Emerging countries such as Brazil, Russia, India, China and South Africa (BRICS) and Mexico, Indonesia, South Korea and Turkey (MIST) are facing decreases in GDP, high interest rates and mainly a drastic reduction on the productivity of their companies. According to Tadeu and Silva (2014), innovation strategy and innovative business models have to be considered as a way to improve productivity and reduce operational limitations. In this sense, we observed that technologies, such as digitalization, are changing the structure of competition, productivity, job creation across emerging and developed economies, conduction of businesses, and, ultimately, performance across industries.

Digitization has a profound and accelerating impact on businesses in that it reshapes business models, lowers barriers to entry, and expands market reach for enterprises. Digitization has enabled companies to move labor-intensive tasks to emerging economies while competing to develop the best design and user interface. Finally, digitization has had the greatest impact on the way companies organize and operate to generate competitive advantage.

The kind and extent of the impact digitization has on a given sector of the economy is determined mainly by the interaction of the four areas outlined above. For example, if digitization significantly enhances market access, then job growth will be more likely in that sector. However, if digitization primarily drives efficiency growth but does not lead to new market creation, then that sector is likely to lose jobs.

In emerging economies, digitization supports the continued acquisition of tradable, often labor intensive, jobs in sectors such as manufacturing from developed economies. In developed economies, digitization enhances productivity in non-tradable jobs, such as service jobs, where it generates fewer new positions while having a greater effect on GDP.

Economic blocs such as BRICS and MIST can still improve the productivity of their companies by implementing new technologies or performing incremental improvements in their current industrial structure, but this requires an environment that is conducive to innovative activity, supported by both public and private sectors.

Our goal is, from the onset, to provide insight and stimulate discussion among all stakeholders about the competitiveness, innovation and technology structure of the BRICS and MIST countries aimed at overcoming obstacles to the improvement of their companies' competitiveness. For the purpose of this research, we considered three of the pillars listed in the WEF Global Competitiveness Report, which specifically contribute to competitiveness, innovation and technology analyses, with regard to digitalization opportunities for BRICS and MIST countries. We selected Pillar 9 (Technological Readiness), Pillar 11 (Business Sophistication) and Pillar 12 (Innovation). We applied the PICAM method to assess how these pillars influence the selection of digitization investments by the economic blocs.

COMPETITIVENESS AND PRODUCTIVITY

Competitiveness is defined as the set of institutions, policies and factors that determine the level of productivity of a country. The level of productivity, in turn, sets the level of prosperity that can be reached by an economy. The productivity level also determines the rates of return obtained by investments in an economy, which in turn are the fundamental drivers of its growth rates. In other words, a more competitive economy is one that is likely to grow faster over time (Schwab & Sala-i-Martin, 2014).