Chapter 3
Comparing the Impacts of Digital Maturity and Digital Ecosystems on Sustainable Development Goals: A Study of BRICS Countries

Meenakshi Sharma
NIET Business School, India

Mukul Bhatnagar
https://orcid.org/0000-0002-7773-5641
Graphic Era University, India

Vibhuti Jain
Graphic Era University, India

ABSTRACT

This study examines the impact of digital maturity and digital ecosystems on the achievement of Sustainable Development Goals (SDGs) in BRICS countries. Focusing on SDGs 4 (Education), 8 (Decent Work), 9 (Innovation), 11 (Smart Cities), and 17 (Partnerships), the research evaluates how digital transformation, through government and private sector investments, digital skills, and innovation, influences SDG progress. The study utilizes secondary data from reputable sources and employs Pearson correlation analysis to measure the relationship between digital maturity scores and SDG outcomes. The findings highlight that countries like China and India

DOI: 10.4018/979-8-3373-3700-5.ch003

have made significant strides in aligning digital strategies with SDG goals, while countries like South Africa and Brazil face challenges, particularly in digital inclusion and infrastructure. The research underscores the importance of targeted investments in digital infrastructure and inclusion to foster sustainable development, promote innovation, and bridge gender and regional digital gaps for achieving the SDGs.

INTRODUCTION

The rapid emergence of digital technologies and their ubiquitous integration into every facet of society has fundamentally altered the contours of global development. In particular, the digital revolution has engendered profound transformations in the economic, social, and environmental spheres, raising new paradigms for addressing the challenges outlined in the United Nations Sustainable Development Goals (SDGs). These 17 ambitious goals, which encompass a broad spectrum of global challenges, from poverty eradication to climate action, have been recognised as critical to ensuring a sustainable future for all (Xing & Imran, 2025). As countries strive to meet these objectives, the role of digital maturity and digital ecosystems has garnered increasing attention as pivotal forces that can either catalyze or impede progress toward the realization of these goals. In this context, examining the impacts of digital maturity and digital ecosystems on sustainable development becomes a matter of paramount importance, especially within the framework of emerging economies like the BRICS (Brazil, Russia, India, China, and South Africa) countries (Iqbal et al., 2025).

Digital maturity, as a concept, refers to the degree to which organizations, societies, and governments can effectively leverage digital technologies to improve their operations, foster innovation, and enhance service delivery. It encompasses not only the technological infrastructure and capabilities of a nation or organization but also its readiness to adapt to the continuous evolution of digital trends (Chisholm & Chissale, 2025). Digital maturity spans several dimensions, including technological infrastructure, human capital, regulatory frameworks, organizational culture, and the integration of digital solutions into everyday practices. In the context of the BRICS countries, this dimension of digital maturity becomes particularly significant, given the disparities in technological development, governance structures, and societal readiness that exist across these nations. For example, while China and India have made significant strides in the digital transformation of their economies, Brazil and South Africa face unique challenges related to digital infrastructure, access to technology, and political will (Manzoor et al., 2025).

On the other hand, the concept of digital ecosystems offers a broader, more integrated perspective on how digital technologies interact and collaborate across