


Chapter 14

IoT, FDI, and Trade Openness Unlocking Economic Growth in BIMSTEC Nations

Rajesh Kumar

 <https://orcid.org/0009-0009-8281-246X>

*Institute of Management Studies, Ghaziabad, India & National Institute of
Technology Agartala, India*

Debasis Neogi

 <https://orcid.org/0000-0003-2229-9376>

National Institute of Technology Agartala, India

ABSTRACT

The regional cooperation institution, BIMSTEC, helps economic development and integration among its seven South and Southeast Asian member countries. The article compares the ratio of GDP per capita with the indicators viz Trade Openness, CPI, FDI, Internet Users and Information and Communication Technology. INT and ICT as proxy of the Internet of Things shows how digital infrastructure will be crucial for economic success. For panel data between 1999 and 2019, Fixed and Random Effects models verified by Hausman specification test for heterogeneity and time-invariant characteristics across member states are applied. The data, provided by reputable sources like the World Bank, IMF, UNCTAD and so on, guarantee validity and reliability. The results offer policymakers and stakeholders practical takeaway that emphasises how digital transformation, foreign investment and trade liberalisation contribute to economic growth. Additionally, the study argues for stability in macroeconomic policies and sustainable development measures to

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promote economic resilience and regional stability.

INTRODUCTION

With the current era of high rates of globalization and digitalization, regional economic integration has served as an important channel of sustainable development (Balassa, 1961; Viner, 1950). Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is one such important regional organisation which is devoted towards economic integration and advancement of technical exchanges and boosting cross border integration amongst the seven member countries, Bangladesh, Bhutan, India, Myanmar, Nepal and Sri Lanka and Thailand (BIMSTEC Secretariat, 2004). BIMSTEC was shown to have focused on the trade liberalization, facilitation of foreign direct investment (FDI), and regional growth that depends on technology as the fundamental elements of its strategic agenda since its creation in 1997 (Rahman & Singh, 2016).

Internet of Things (IoT) has become a revolutionary aspect in modernization of economies, and it is the paradigm of profound advances in productivity, functionality, and innovation of economic sectors (Atzori et al., 2010; Gubbi et al., 2013). In the case of this analysis, internet penetration rates and Information and Communication Technology (ICT) infrastructure are used as proxies to the adoption of IoT considering that the process of technology-based transformation of economies relies on a technological base to facilitate digital economic transformation (ITU, 2020). When viewed with other important macro economic factors like the Consumer Price Index (CPI), trade openness rates and the FDI movements these (factors) offer a complete picture to ascertain their overall effect on the growth of per capita GDP in the BIMSTEC economies (Solow, 1956; Romer, 1990).

The spread of IoT technologies, with the assistance of the broadening internet connectivity and durable ICT infrastructure, has simultaneously overturned the economic systems of developing countries on an endemic level (UNCTAD, 2019). With IoT use cases, advanced data analytics, predictive modeling of events, and operation optimization in high-stakes markets such as agriculture, healthcare, and manufacturing are possible (Porter & Heppelmann, 2014). This digitalization comes in line with the BIMSTEC strategic plans of creating economic resilience and elimination of developmental gaps amongst the member states (Bhattacharyay, 2010).

In this research, the econometric framework of panel data with both fixed and random effects is used to address questions about the relation between these variables over the course of 20 years (1999-2019). Using sound statistical approaches and credible sources of data, the study aims to present an empirical evidence on the effects of digitalization, trade policies and investment strategies on the outcomes

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