ABSTRACT

The relationship between Information Communication Technology (ICT) infrastructure, innovation, and economic growth has received significant consideration in the growth literature. This study focuses on the causal nexus between ICT Infrastructure, innovation, and economic growth across the Group of Twenty (G-20) Countries, namely Australia, Canada, France, Germany, Italy, Japan, Republic of Korea, United Kingdom, United States of America, European Union, Argentina, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa and Turkey over the period 1960-2019. Specifically, this study first deploys panel data modeling to examine the dynamics among ICT infrastructure, innovation activities and economic growth in these selected countries. The Granger causality test is applied subsequently for examining their causal nexus. The empirical analysis finds that there exist inter-regional disparities in the availability of ICT infrastructure, innovation and economic growth in these G-20 countries. The Granger causality test shows that both ICT infrastructure and innovation have a substantial impact on economic growth. It also shows that both ICT infrastructure and innovation Granger cause each other. It is, therefore, necessary to have adequate access to both ICT infrastructure and innovation and their synergic integration in these G-20 countries for achieving higher economic growth. Their insufficiency brings in different policy implications in these G-20 countries, thereby recommending adequate funds provision and suitable public policies to boost those.

Keywords: ICT infrastructure, Innovation, Economic growth, G-20 countries