International Academic Institute for Science and Technology

International Academic Journal of Economics
Vol. 13, No. 1, 2026, pp. 16-23.

ISSN 2454-2474

International Academic Journal of Economics

www.iaiest.com

Economic Growth and Development Models in the Context of Technological Advancements and Globalisation

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Abstract

The paper dwells on the dynamism of models of economic growth and development following the high-paced technological advancement and globalisation. It addresses the weakness of the classical theories of growth with regard to the multidimensional and dynamic nature of contemporary economies that are being reshaped by the digital transformation, the spread of innovation, and global economisation. The four research questions inform the paper as it explores the effects of technological advances, globalisation implications, variables of institutional and human capital and the problem of digital inequality. The research is qualitative and analytical in nature and entails a thorough review of the academic literature, policy reports, and theoretical views that border on endogenous growth, innovation-driven development, and global value chains. The paper examines the relationships between technology adoption and openness to trade and structural economic change in the absence of modelling using econometric analysis, using a conceptual synthesis. The results indicate that an increase in the levels of technological preparedness and globalisation leads to increased productivity, competitiveness and sustainable growth in the economies. However, the gains of these processes are not distributed equally, which leads to the increasing polarisation of the developed and developing economies due to the type of institutions and the degree of human capital and digital infrastructure. The paper also suggests the relevance of the role of institutional arrangements and dynamic policy environments in either predetermining the growth outcomes. The paper concludes that the contemporary paradigms of development must change to more accommodative and open systems that embrace the digital transformation, global interdependence and institutional flexibility. Policy implications show that there is a necessity to invest in digital infrastructure, development of skills, innovation ecosystems and fair-trade practices to promote sustainable economic development that is balanced in the era of globalisation.

Keywords: Economic Growth, Technological Advancement, Globalisation, Development Models, Innovation Diffusion, Digital Transformation, Institutional Framework.

DOI: 10.71086/IAJE/V13I1/IAJE1303
Received: 11 December, 2025/Revised: 19 January 2026/Accepted: 16 February 2026/Published: 30 March 2026

Introduction

The high rate of technological change and increased globalisation have fundamentally changed the paradigms of economic growth and development by changing the productivity and labour structure, and the institutional operation of any given economy. The classical theory of growth might not necessarily be sufficient to comprehend the present structural change that has been triggered by the advancement of digital innovation, the spread of artificial intelligence and the integration of the global value chain that demands more conceptually flexible approaches. To be specific, the differences in access to technology and the world in general have contributed to the unequal developmental patterns of the countries, and it is the issue of inclusive growth and sustainability in the long term. The recent literature acknowledges the digital transformation as one of the most significant sources of productivity and competitiveness, but the gains of the process are not distributed evenly because of institutional and infrastructural gaps (Acemoglu & Restrepo, 2020). Similarly, globalisation has been observed to accelerate the convergence of economies in some places and, simultaneously, heighten inequality in other places due to the dissimilarity in integrating into the globalised markets (Gardezi & Chaudhry, 2022). The patterns of development are aggravated by technology and globalisation, where the economies that are highly innovative tend to experience a faster structural transformation (Jianguo et al., 2022). There has also been an empirical argument that the degree of human capital development and digital readiness is a predictive factor of the success of economies in translating technological inventions into development products (Hanushek & Woessmann, 2020). In addition, the quality of institutions also plays a vital role in determining whether globalisation leads to inclusive or exclusionary growth patterns (Trejo-Nieto, 2025). The contemporary development discourse has increasingly emphasised the importance of innovation-driven growth policies with policy frameworks that promote versatility and resilience (Kristyanto & Jamil, 2023). Another factor is the global supply chain integration that has re-established efficiency in production and trade competitiveness in the developing economies (Nyagadza et al., 2022). However, there is the issue of digital inequalities and technological marginalisation (Kannan & Gambetta, 2025). The new economic models, thus, provide the importance of modulated policy responses that incorporate technology, openness to trade and institutional fortification (Ali & Malik, 2021). On the whole, the changing economic environment is among the factors that should be encouraged to drive a paradigm change in thinking about growth as the desire to make it more aligned with the global interconnectedness and technological change (Gollin & Kaboski, 2023).

The study aims to:

- To investigate the role played by the improvement of technology in the contemporary models of economic growth.
- To determine the impacts of globalisation on the developmental trend in the economies.
- To establish the link between innovation, institutions and growth in productivity.
- To discover problems that are not globally even, that are brought about by digital inequality and globalisation.
- To provide inclusive and sustainable development with policy-based recommendations.

The objectives have the following research questions:

RQ1: What is the role that technological advancement plays in the current models of economic growth and productivity in the digital transformation?

RQ2: What are the effects of globalisation on the trend in economic development and structural changes of different economies?

RQ3: How do innovation, institutional quality and human capital relate, and how do these impact productivity growth and the economy?

RQ4: In what ways does digital inequality and unequal globalisation confront and what are its consequences on inclusive and sustainable economic development?

Key Contributions:

- Develops a logical conceptual framework of technology, globalisation and economic growth.
- Identifies the moderating impacts of institutional quality, human capital and digital infrastructure.
- Illustrates the impacts of globalisation and technological development on each other and the resulting development.
- Explains unequal development of economies through a relative conceptual synthesis.

The paper is structured into five key sections to make it clear and well-presented. Section I gives the background of the research, problem statement, research questions, objectives and significance of the study within the globalisation and technological advancement. Section II is a review of the literature on the subject of economic growth, innovation, globalisation, and institutional frameworks, which includes some major theoretical and empirical contributions. The research design and conceptual framework, study area, sampling strategy, data collection methods and conceptual analytical structure of the study are described in Section III. Section IV displays the analysis and results organised in terms of the four research questions and makes an interpretation of the relations between the main determinants of economic growth in terms of comparative tables and a synthesis of the concept. Section V summarises the main findings and gives recommendations on how to promote sustainable and inclusive development and policy implications relevant to future research and practice.

Related Work

The literature on models of economic growth and development with respect to technological change and globalisation has increased dramatically, and recent studies have been concerned with the structural change via the process of digitalisation, the ecosystem of innovation and economic integration in the global context. Theorists have rapidly shifted away from traditional models of capital-labour growth to more dynamic, more technological, more sensitive to institutions models, which are better placed to explain the current changes in the economy. Recent research suggests that digital technologies such as artificial intelligence and automation are altering the productivity trend and labour market by making work more efficient and at the same time eliminating routinised jobs in certain industries (Goodson et al., 2025). At the same time, globalisation remains a two-sided process because it provides the world markets and flows of knowledge; on the other hand, the developing economies are subjected to the pressure of competition on an international scale (Giunta et al., 2025). The global value chains integration has also been discovered to have been one of the key processes through which the economies have managed to achieve industrial upgrading and export-led growth, particularly in the emerging markets (Escaith, 2022). However, the studies also mention the structural imbalances that remain unchanged because of uneven access to technologies and digital infrastructure and limit the developmental opportunities of less-developed regions (Gasper, 2022).

Further literature emphasises the role of institutional structures in mediating the effect of technological diffusion and globalisation on economic performance. Effectiveness of regulation and flexibility of policy, and a strong governance system have always been linked to greater economic resilience and ability to be innovative (Zafirovski, 2022). Moreover, it is also a general fact that the development of human capital is a considerable enabler of technology uptake and productivity growth, especially in the knowledge-based sectors (Assefa et al., 2025). Recent empirical studies are also indicating that economies that put in place a digital transformation plan in post-crisis environments recover more quickly and have a higher probability of having a bright long-term growth, particularly in post-crisis environments (Ginn & Saadaoui, 2025). In addition, the elements of sustainability are also approaching the models of innovation-based growth, and the necessity to balance the economic growth and environmental limitations also obtains importance (Chen et al., 2025). Research studies also suggest that the reason why countries are beneficiaries of globalisation processes is the correlation between trade openness and technological preparedness (McDiarmid & Zhao, 2023). Lastly, mention the motif of increasing the significance of digital ecosystems and platform economies as the new research on the topic (Pang et al., 2023).

The literature reviewed has found that technological development, globalisation, institutional power and human capital have been more fuelling economic growth than traditional capital. As far as technology and globalisation have made people more productive, the fruits of their labour are skewed because of the unequal digital infrastructure and institutional capability. Globalisation and technology have a contextual relationship, and this demands flexible policy frameworks. In general, it is possible to mention that the literature underlines the interdependence of these aspects in the formation of modern tendencies in the development of the economy.

Research Design

Study Area

This paper is a conceptual analysis of the chosen developed and developing economies, especially in relation to the regions such as North America, the European Union, and the South and Southeast Asia emerging economies (Autor et al., 2021). It is based on the insights on how the trends in economic growth in these regions, and especially on the process of digital transformation and participation in global value chains, can be influenced by technological development and globalisation (Baldwin & Freeman, 2022). The emphasis of these idealised economic clusters makes

it feasible to obtain variation in institutional quality, digital infrastructure and human capital that can be employed to study more precisely the variation in the growth outcomes and developmental trajectories.

Sampling

In the selection of secondary sources of relevance in answering the research questions, the research adopts a purposive sampling strategy. The sample entails peer-reviewed journal articles, international economic reports, and policy documents that specifically mention technological advancement, globalisation, institutional frameworks and economic progressions (Baldwin & Freeman, 2022; Verhoogen, 2023). The sources are also selected based on their relevance to the four research questions, recency and contribution to the theoretical and empirical knowledge on the current development models in the mentioned regions.

Data Collection

The method used in data collection is qualitative, hence complete reliance on secondary data sources. Academic databases, world economic reports, and institutional publications are systematically searched to collect information giving insight into the technological development, trends of globalisation, institutional quality, and productivity. Thematic and conceptual synthesis of the literature collected is used to analyse the literature so that the findings are categorised based on the four research questions. This technique allows the discovery of the significant relationships, recurrent patterns, and conceptual ties explaining the changing dynamics of economic development in the light of technological change and globalisation.

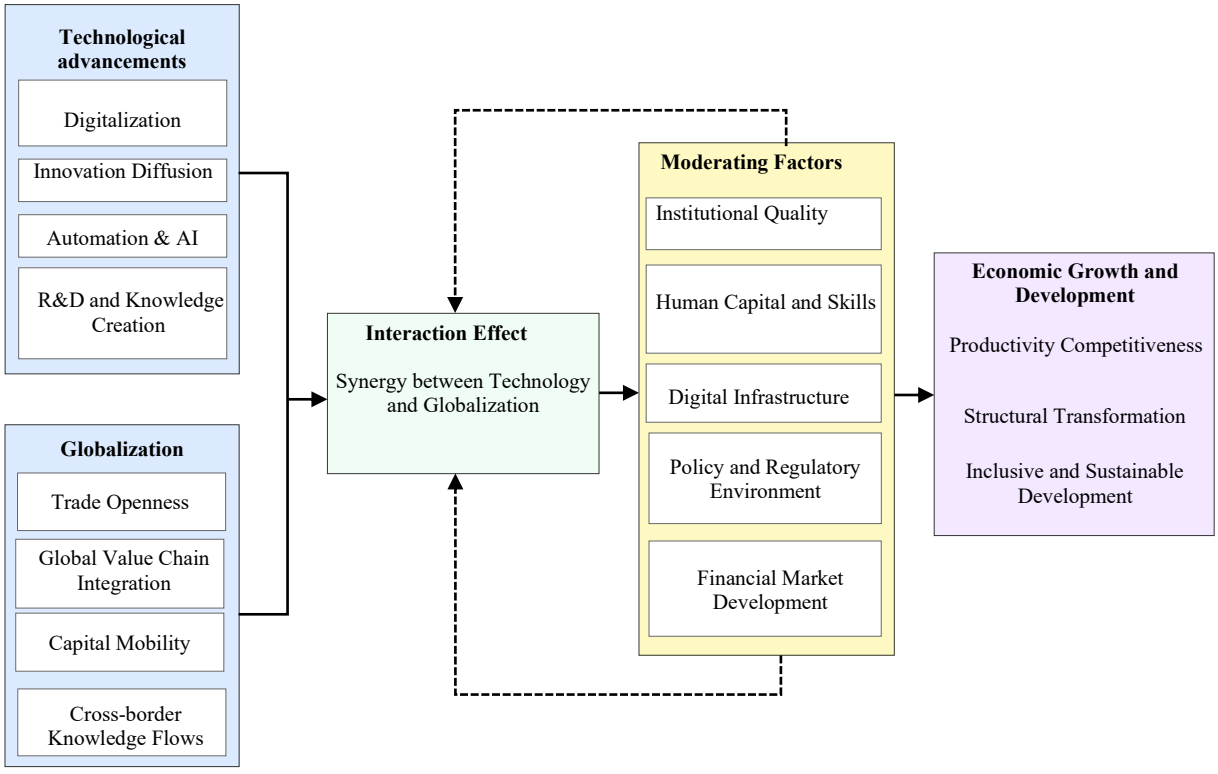


Fig. 1: Conceptual Framework of Economic Growth Dynamics

Fig.1 illustrates how globalisation and technological changes relate to each other as the two key drivers of economic growth and development. It identifies technological factors like digitalisation, diffusion of innovation, automation and research and development as the key productivity-enhancing aspects. Globalisation can be expressed as having openness to trade, global value chains, and capital and knowledge flows across nations. One of the key synergies is the collaboration of the two spheres, which enhances their overall influence on the economic performance. The moderating factors also give this relationship, which includes: institutional quality, human capital, digital infrastructure, policy environment, and development of financial markets. The end result of this structure is the enhancement of the economy and development, which includes productivity, competitiveness, structural transformation, and inclusive and sustainable development.

Results and Discussion

Evidence-Based Description

The research is not based on primary data or sampling of respondents. Rather, it is based on systematised evidence of secondary sources in the form of peer-reviewed journals, World Economic Reports, and policy papers on technological development, globalisation, and economic development. The evidence base is a cross-sectional conceptual dataset that reflects the differences across the chosen developed and developing areas, specifically, North America, the European Union, and South and Southeast Asia. This literature captures some of the major macroeconomic indicators like technology preparedness, level of global integration, institutional performance and productivity levels. This method allows for a comparative and thematic interpretation of economic trends without being limited to analysing a single dataset or empirical sample.

Research Question–Based Analysis

RQ1: Technological Advancement and Economic Growth Dynamics

This analysis has shown that technological development is at the centre of modern economic development as it contributes to productivity, accelerates innovation and structural change. With greater efficiency and competitiveness, economies that have successfully embraced digital technologies, automation, and research-based innovation exhibit greater efficiency and competitiveness. Spreads of high technologies are involved in the enhancement of the production processes and value generation, thus empowering long-term growth patterns. The level of such benefits, however, depends on the degree of technological preparedness, as well as on the ability to incorporate innovation into economic systems.

RQ2: Globalisation and Development Patterns

Globalisation has been observed to have a tremendous effect on economic development through the opening up of economies through trade, mobility of capital and knowledge across borders. Well-integrated economies in the global value chains are likely to have more access to the world market and high production efficiency. In the meantime, globalisation has not been experienced equally across the world, and the nations that have played a minor role in the global networks tend to be constrained in the delivery of equal growth outcomes. This demonstrates to us that globalisation is also an opportunity and a challenge, and it would be dependent on the structural and economic preparedness of specific economies.

RQ3: Interaction of Innovation, Institutions, and Productivity

The findings reiterate the point that the relationship between innovation and economic growth is strongly predetermined by institutional quality and human capital. Economies can also transform the changes in technology into tangible gains in productivity with good governance, a conducive policy environment, and well-laid-out education systems. On the contrary, ineffective exploitation of innovation is caused by poor institutional structures and incompetence, which result in poor growth outcomes. The interplay underscores the importance of a favourable institutional ecosystem in making sure that the benefits of technological progress are maximised.

RQ4: Digital Inequality and Uneven Globalisation Challenges

Table 1: Summary of Key Drivers of Economic Growth Outcomes

Driver Category	Key Components	Observed Impact on Growth
Technological Advancement	Digitalisation, AI, Innovation, R&D	High productivity and structural transformation
Globalization	Trade openness, capital flows, and global value chains	Market expansion and efficiency gains
Institutional Quality	Governance, regulation, policy stability	Determines the effectiveness of growth transmission
Human Capital	Skills, education, and workforce adaptability	Enhances technology absorption
Digital Infrastructure	Connectivity, digital access	Enables inclusive participation in the digital economy

As the discussion reveals, some of the causes of unequal development outcomes in various economies are digital inequality, infrastructure inequality, and technological inequality. Digital divide limits the abilities of certain regions to get all the benefits of globalisation and technological advancements, which further widens the development gap

between developed and developing economies. In addition, the unequal assimilation of the global economic systems exacerbates the structural imbalance, restricting inclusive and sustainable growth. To address these challenges, particular policy interventions are necessary to improve digital inclusion and fair access to the global economic processes.

Table 1 presents the associations of the determinants that are majorly synthesised and their influences on the outcome of economic growth and development. It highlights the findings of literature in a methodical comparative view of factors of influence.

Table 2: Interaction Matrix of Growth Determinants

Interaction Pair	Nature of Interaction	Resulting Economic Effect
Technology + Globalization	Synergistic reinforcement	Accelerated productivity and innovation diffusion
Technology + Institutions	Conditional amplification	Efficient transformation of innovation into growth
Globalisation + Human Capital	Complementary effect	Improved competitiveness in global markets
Institutions + Digital Infrastructure	Structural enabling effect	Reduced inequality in digital access
Combined System Interaction	Multi-layered synergy	Inclusive and sustainable economic development

Discussion

The results of the current study suggest that contemporary economic development is more and more determined by the joint impact of technological advancement and globalisation as opposed to the traditional factors of production. The analysis indicates that technological development and global integration are two independent factors that lead to the growth of an economy; however, more substantial results are realised when the two forces exist in synergy. Economies that successfully adopt digital technologies in connecting with global markets are likely to acquire productivity and structural transformation more quickly. This also emphasises the fact that economic growth performance is extremely heterogeneous and does not solely rely on exposure to technology and world markets but also on the facilitating factors within each economy, including institutional strength, human capital, and digital infrastructure.

The most important explanatory variables to consider in the uneven development are the institutional level, the human capital, and the impact of digital infrastructure. Globalisation and technological diffusion have been found to have a relatively low impact on weak governance, lack of skills, and lack of digital ecosystems. Table 2 also indicates that the interaction among the different determinants of growth is not independent, as any of the individual factors does not drive growth alone, but interdependencies are stacked. Table 2 illustrates that the joint effects are stronger and sustainable development effects, when compared to table 1, which summarises individual drivers, which justifies the conceptual model. In general, the discussion supports the argument that economic development in the modern era of the world is systemic and interdependent as opposed to being linear.

Suggestions

There should be a policy action to improve the digital infrastructure and access to technology to make it more economically active. To improve the effectiveness of globalisation and growth through innovation, institutions need to be better. The uptake and efficiency of technology can be augmented with augmented investment in human capital in terms of skill creation and education. The new economies are also motivated to be increasingly integrated into the global value chains to become competitive. In conclusion, the realisation of inclusive and sustainable growth should involve coordinated policies involving technology, institutions, and globalisation.

Conclusion and Future Work

The interactions between technological development, globalisation, and economic development in the paradigm of modern growth have been discussed in the paper. It underlines the fact that traditional capital accumulation is no longer the sole determinant of economic growth today, when the digital transformation, the diffusion of innovations, and the integration of economies in the world have become even more prominent. The analysis shows that productivity rise and a structural change depend on both technological development and globalisation, particularly when the economies are able to effectively integrate digital potentials with the global trading networks. In the meantime, the findings also point to the fact that economic performance is not homogeneous and that this is due in large part to the

fact that the quality of the institutions, human capital, and digital infrastructure diverges. The importance of the institutional structures in determining whether the effects of technology and globalisation lead to an inclusive or exclusionary pattern of growth is also discussed. The study mostly concludes that sustainable economic development requires a balanced and combined approach that includes technological readiness, global interdependence, and the institutional malleability to ensure that the growth outcomes may be more equitable.

It is possible to extend this conceptual model in the future by empirical testing of the concept using a cross-country econometric model and longitudinal data. It is also possible to ruminate about the possibility of using new technologies, artificial intelligence, blockchain and green technologies to transform the world economic system. Moreover, their concerns on sustainability must be taken into consideration in the future by taking care of the environment by incorporating environmental restraints in growth models to ensure that it is friendly to climate objectives. Comparative regional studies may also help understand the effectiveness of technological and global integration on the impact on the environment of policy.

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