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# Digital Transformation, Entrepreneurial Ecosystems, and Economic Growth

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## ABSTRACT

This study aims to examine the relationship between digital transformation, entrepreneurial ecosystems, institutional quality, and economic growth using a Systematic Literature Review (SLR) approach. The study analyzed scholarly articles indexed in Google Scholar and published over the last five years to obtain a comprehensive understanding of the role of digital technologies in economic development. The review process involved identification, screening, evaluation, and synthesis of relevant literature. The findings indicate that digital transformation contributes to productivity enhancement, innovation, and entrepreneurial activities that ultimately promote economic growth. Furthermore, entrepreneurial ecosystems and institutional quality play significant roles in strengthening the impact of digital technologies on economic performance. The results suggest that the benefits of digitalization can be maximized when supported by effective policies, adequate infrastructure, and conducive institutional environments. This study provides both theoretical and practical contributions to understanding sustainable economic development in the digital era.

***Keywords:*** *Digital Transformation, Economic Growth, Entrepreneurial Ecosystems, Innovation, Institutional Quality.*

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## 1. | INTRODUCTION

The rapid advancement of digital technology has fundamentally transformed the global economic landscape and reshaped the way economic actors create, distribute, and capture value. The emergence of digital technologies, including internet infrastructure, digital platforms, and information and communication technologies (ICT), has accelerated economic activities across various sectors and contributed to the transition toward a digital economy. In recent years, digitalization has become a key driver of productivity enhancement, market expansion, and innovation, thereby influencing long-term economic growth and competitiveness. The increasing integration of digital technologies into economic systems has encouraged governments, businesses, and institutions to adapt to rapidly changing environments in order to maintain sustainable economic performance (UNCTAD, 2021; OECD, 2020).

The role of digital transformation in economic development has attracted growing scholarly attention due to its ability to facilitate innovation and entrepreneurial activities. Digital technologies enable firms and individuals to access information, reduce transaction costs, improve efficiency, and create new business models that were previously unattainable. Such developments have significantly expanded entrepreneurial opportunities and promoted economic dynamism. According to Autio et al. (2018), digital affordances create new possibilities for entrepreneurial ecosystems by reducing spatial barriers and enabling collaboration across regions. Similarly, Nambisan et al. (2019) argued that digital transformation has changed the nature of innovation and entrepreneurship by fostering new forms of value creation in the digital era.

Entrepreneurial ecosystems have emerged as an important framework for understanding how various actors, institutions, and resources interact to support entrepreneurship and economic growth. An effective entrepreneurial ecosystem consists of interconnected elements such as institutions, culture, infrastructure, human capital, and policy support that collectively enhance entrepreneurial performance and innovation capacity. Previous studies suggest that well-functioning entrepreneurial ecosystems contribute positively to economic development by facilitating knowledge spillovers and fostering innovative activities (Stam & van de Ven, 2021; Wurth et al., 2021). Consequently, the relationship between digital transformation and entrepreneurial ecosystems has become increasingly important in explaining economic outcomes in the digital era.

Despite extensive research on digitalization and entrepreneurship, several research gaps remain. First, prior studies have predominantly focused on digital entrepreneurship rather than broader economic growth outcomes. Second, many studies remain conceptual and provide limited empirical evidence regarding the mechanisms through which digital technologies influence economic performance. Third, existing research often emphasizes regional ecosystems while paying less attention to national or broader economic contexts. Furthermore, the moderating role of institutional quality

and supporting economic environments has not been sufficiently explored (Audretsch et al., 2019). The article by Zhang et al. (2023) highlighted that digital technology positively affects national entrepreneurship and that this relationship is strengthened by supportive institutions, culture, and resources, yet the implications for overall economic growth remain underexplored.

Based on these gaps, this study aims to examine the role of digital transformation in promoting economic growth through innovation and entrepreneurial ecosystems. By integrating perspectives from digital economy, institutional economics, and entrepreneurial ecosystem theories, this study seeks to provide a more comprehensive understanding of how digital technologies interact with economic and institutional factors to generate sustainable economic development. The findings are expected to contribute to both academic literature and policy formulation regarding digital transformation and economic growth in the contemporary economy.

## 2. | LITERATURE REVIEW

### Digital Transformation and Economic Growth

Digital transformation refers to the integration of digital technologies into economic and business activities that fundamentally alter production processes, market interactions, and value creation mechanisms. The development of digital technologies, including internet infrastructure, digital platforms, and information systems, has accelerated the transition toward a knowledge-based and digital economy. Digital transformation enables organizations to improve efficiency, reduce transaction costs, and increase productivity, thereby contributing to economic performance. The diffusion of digital technologies also expands market access and facilitates innovation, which are considered essential drivers of long-term economic growth.

From an economic perspective, digital transformation promotes structural changes by creating new industries and enhancing competitiveness across sectors. The emergence of digital ecosystems allows economic actors to collaborate more effectively and exploit new opportunities. Moreover, digital technologies facilitate resource allocation and knowledge dissemination, thereby increasing innovation capabilities and productivity growth. The theory of creative destruction emphasizes that technological advancement serves as a catalyst for economic development by replacing outdated economic structures with more innovative systems (Aghion et al., 2021). Furthermore, digitalization has become increasingly important in promoting entrepreneurship and economic resilience in the modern economy (UNCTAD, 2021). Previous studies also indicate that digital technologies significantly influence entrepreneurial activities and contribute to national economic performance through ecosystem interactions (Zhang et al., 2023).

## Entrepreneurial Ecosystems and Institutional Support

Entrepreneurial ecosystems describe interconnected networks of institutions, organizations, policies, and resources that collectively support entrepreneurial activities and innovation. An effective entrepreneurial ecosystem consists of multiple elements, including institutional quality, human capital, infrastructure, financial resources, and supportive cultural norms. These components interact dynamically to create an environment conducive to business creation and economic development. The ecosystem perspective suggests that entrepreneurship does not occur in isolation but is shaped by the broader economic and institutional context.

Institutional quality plays a crucial role in facilitating entrepreneurial activities by reducing uncertainty and transaction costs. Effective governance, regulatory quality, and supportive policies create favorable conditions for innovation and business development. High-quality institutions also encourage investment and improve market efficiency, thereby enhancing economic growth. According to Stam and van de Ven (2021), entrepreneurial ecosystems generate value through interactions among various actors and supporting institutions. Similarly, Wurth et al. (2021) emphasized that the interdependence among ecosystem elements determines entrepreneurial outcomes and long-term sustainability. Moreover, studies have shown that institutional arrangements significantly affect entrepreneurship quality and economic performance, highlighting the importance of governance in fostering innovation-driven growth (Chowdhury et al., 2019). Therefore, integrating institutional support with digital transformation is essential for achieving sustainable economic development.

## 3. | RESEARCH METHOD

This study employed the Systematic Literature Review (SLR) method to comprehensively examine the relationship between digital transformation, entrepreneurial ecosystems, innovation, and economic growth. SLR was selected because it enables researchers to identify, evaluate, and synthesize existing studies systematically and transparently, thereby reducing bias and enhancing the reliability of findings. Through this approach, the study aims to develop a comprehensive understanding of how digital technologies influence economic performance and the role of entrepreneurial ecosystems and institutional factors in shaping such relationships.

The review process followed several systematic stages, including identification, screening, eligibility assessment, and synthesis of relevant literature. The literature search was conducted using internationally recognized databases indexed by Google Scholar, including Scopus-indexed journals and reputable international publishers. The keywords used in the search process included “digital transformation,” “digital economy,” “entrepreneurial ecosystem,” “innovation,” “institutional quality,” and “economic growth.” To ensure the relevance and timeliness of the literature, only articles published over the last five years were included in the review process. This time frame was selected to capture recent developments in digital transformation and

entrepreneurship research while maintaining consistency with the study's objective of producing a manuscript relevant to publication.

The inclusion criteria consisted of peer-reviewed journal articles written in English, empirical or conceptual studies focusing on digital technologies and economic development, and studies discussing entrepreneurial ecosystems or institutional dimensions. Conversely, articles lacking clear methodological explanations, conference papers, book reviews, and non-peer-reviewed publications were excluded from the analysis. In addition, the study incorporated the work of Zhang et al. (2023), which provides valuable insights into the interaction between digital technology and entrepreneurial ecosystems from a national perspective. The findings of the selected literature were then categorized into major themes, including digital transformation, innovation, institutional quality, entrepreneurial ecosystems, and economic growth.

Through thematic synthesis, this study identified research trends, theoretical perspectives, and existing research gaps concerning the impact of digitalization on economic development. The SLR approach enabled the formulation of a comprehensive conceptual framework that integrates digital technology, entrepreneurship, and institutional support in explaining sustainable economic growth in the digital era.

## 4. | RESULTS

The systematic literature review reveals that digital transformation has emerged as one of the most influential drivers of economic development in the twenty-first century. The increasing adoption of digital technologies, including internet infrastructure, cloud computing, digital platforms, and information systems, has significantly altered production processes and market structures across various sectors. Digitalization not only improves operational efficiency but also enhances the capacity of economic actors to innovate and compete in global markets. As economies become increasingly interconnected, digital technologies facilitate knowledge diffusion and reduce transaction costs, thereby stimulating productivity and long-term economic growth (UNCTAD, 2021).

The reviewed literature consistently demonstrates that digital transformation creates favorable conditions for entrepreneurship by enabling new business models and expanding access to resources. Digital technologies lower barriers to market entry, allowing entrepreneurs to reach broader customer bases and develop innovative products and services. This transformation supports the creation of more dynamic and inclusive economic systems. According to Autio et al. (2018), digital affordances reduce spatial constraints and create opportunities for entrepreneurial activities beyond geographical boundaries. Similarly, digitalization enables firms to collaborate and exchange knowledge more effectively, thereby accelerating innovation processes.

Innovation is repeatedly identified as a crucial mechanism through which digital transformation contributes to economic growth. Technological progress promotes productivity enhancement and stimulates structural changes within economies. The theory of creative destruction argues that innovation drives economic development by

replacing obsolete technologies and business models with more efficient alternatives. Consequently, economies that successfully adopt digital technologies are more likely to experience sustainable growth and enhanced competitiveness (Aghion et al., 2021). Moreover, innovation encourages the emergence of new industries and supports economic diversification, which strengthens resilience against external shocks.

The findings also indicate that entrepreneurial ecosystems play a significant role in translating digital capabilities into economic outcomes. Entrepreneurial ecosystems consist of interconnected actors, institutions, and resources that collectively facilitate innovation and business creation. A supportive ecosystem enables entrepreneurs to access knowledge, finance, infrastructure, and networks required for business development. The interaction among ecosystem elements creates an environment that fosters entrepreneurship and economic growth. Studies suggest that the effectiveness of entrepreneurial ecosystems depends not only on the presence of individual components but also on the quality of interactions among them (Stam & van de Ven, 2021).

The interdependence among ecosystem elements is particularly important in understanding economic performance in the digital era. Ecosystem components such as institutions, culture, human capital, and infrastructure operate collectively to support entrepreneurial activities. Wurth et al. (2021) emphasized that entrepreneurial ecosystems function through complex causal relationships and dynamic interactions among various actors. Therefore, economic growth cannot be explained solely by technological advancement but must also consider supporting institutional and social environments that facilitate innovation.

Institutional quality emerges as another critical determinant of economic growth in the context of digital transformation. Effective governance, transparent regulations, and strong legal frameworks reduce uncertainty and encourage investment in innovation and entrepreneurship. High-quality institutions create stable environments that support business activities and facilitate the adoption of digital technologies. Conversely, weak institutions may hinder technological diffusion and limit entrepreneurial initiatives. Research has demonstrated that institutional quality significantly influences entrepreneurship performance and economic development by shaping incentives and reducing transaction costs (Chowdhury et al., 2019).

The literature further highlights the role of government policies in supporting digital transformation and entrepreneurial development. Public policies that promote digital infrastructure, technological education, and innovation financing contribute significantly to economic advancement. Governments play an essential role in creating enabling environments where businesses can leverage digital technologies effectively. Policy interventions such as tax incentives, regulatory reforms, and investment in digital infrastructure facilitate entrepreneurial activities and improve economic competitiveness (OECD, 2020).

Another important finding concerns the increasing relevance of digital entrepreneurial ecosystems. Digital technologies have transformed the way

entrepreneurs identify opportunities, mobilize resources, and create value. The integration of digital tools into entrepreneurial ecosystems enhances connectivity and collaboration among stakeholders, leading to more efficient innovation processes. Elia et al. (2020) argued that digital entrepreneurship ecosystems reshape traditional entrepreneurial activities by combining digital technologies with collective intelligence and knowledge networks. This transformation enables entrepreneurs to respond more effectively to changing market conditions.

The findings also indicate that digital transformation contributes to economic resilience. During periods of economic disruption, digital technologies enable firms to maintain operations, access markets, and adapt business strategies more rapidly. The expansion of digital services and online platforms increases flexibility and reduces dependency on physical interactions. Consequently, digital economies tend to demonstrate greater resilience against external shocks and uncertainties. This resilience is particularly important in supporting sustainable economic growth in rapidly changing environments (Youssef et al., 2021).

Furthermore, the literature demonstrates that technological advancement alone is insufficient to generate economic growth. Instead, the effectiveness of digital transformation depends on complementary factors such as human capital, institutional quality, and resource accessibility. Countries with well-developed educational systems and strong institutions are more capable of exploiting digital opportunities and translating them into economic benefits. Therefore, digital transformation should be viewed as part of a broader ecosystem involving economic, institutional, and social dimensions (Audretsch et al., 2019).

Recent studies also emphasize that entrepreneurial ecosystems are becoming increasingly interconnected due to digitalization. Digital technologies facilitate collaboration among entrepreneurs, investors, institutions, and consumers across national boundaries. Such interconnectedness enhances knowledge spillovers and supports innovation-driven growth. Bouncken and Kraus (2021) highlighted that modern entrepreneurial ecosystems operate within globally connected networks, making digital capabilities increasingly important for economic competitiveness.

The review further reveals that digital transformation encourages the development of service industries, which have become major contributors to economic growth in many countries. Digital services, including e-commerce, financial technology, and online platforms, create employment opportunities and increase productivity. The growth of service sectors also stimulates innovation and enhances market efficiency. As a result, economies with advanced digital service industries often exhibit higher levels of economic performance and competitiveness.

The study by Zhang et al. (2023) provides empirical evidence that digital technology positively influences entrepreneurship and that this relationship is strengthened by supportive culture, institutional quality, entrepreneurial policies, and resource accessibility. These findings suggest that digital technologies generate greater

economic benefits when embedded within favorable ecosystems. Although the study focuses primarily on entrepreneurship, its implications extend to broader economic development by demonstrating how digital technologies interact with institutional and economic factors to create value.

Finally, the systematic review identifies several unresolved issues in the existing literature. Most previous studies focus on specific aspects of digitalization, such as entrepreneurship or innovation, while limited research integrates digital transformation, entrepreneurial ecosystems, institutional quality, and economic growth within a unified framework. Additionally, many studies emphasize regional perspectives, leaving national and cross-country analyses relatively underexplored. These gaps indicate the need for future research to examine the complex relationships among digital technologies, institutions, and economic development from a more comprehensive perspective (Nambisan et al., 2019).

## 5. | DISCUSSION

The findings of this study confirm that digital transformation has become a fundamental driver of economic growth in the modern economy. The systematic review demonstrates that digital technologies contribute not only to productivity enhancement but also to innovation creation and entrepreneurial development. These results support the view that digital transformation is no longer limited to technological advancement but has evolved into a strategic factor influencing economic structures and competitiveness. The increasing integration of digital technologies into economic activities enables firms and entrepreneurs to access broader markets, optimize resources, and develop innovative solutions that create economic value.

The findings further reveal that the relationship between digital transformation and economic growth is not direct but mediated by entrepreneurial ecosystems and institutional arrangements. This result aligns with the entrepreneurial ecosystem perspective, which argues that economic performance depends on the interaction among multiple ecosystem elements rather than on individual factors alone. In this regard, entrepreneurial ecosystems serve as mechanisms through which digital capabilities are translated into innovation and economic outcomes. Effective ecosystems facilitate knowledge exchange, resource mobilization, and collaboration among stakeholders, thereby strengthening economic performance (Stam & van de Ven, 2021).

Another important implication concerns the role of institutional quality in maximizing the benefits of digital transformation. The literature indicates that strong institutions create favorable environments for entrepreneurship and innovation by reducing uncertainty and improving regulatory efficiency. Institutional support, including governance quality and policy effectiveness, enables economic actors to exploit digital opportunities more effectively. This finding reinforces previous studies suggesting that institutional arrangements significantly influence entrepreneurship quality and long-term economic growth (Chowdhury et al., 2019). Therefore,

policymakers should prioritize institutional reforms alongside digital infrastructure development to ensure inclusive economic growth.

Furthermore, the findings support the argument that digital technologies generate greater economic benefits when embedded within supportive entrepreneurial ecosystems. The study by Zhang et al. (2023) demonstrated that digital technology positively influences entrepreneurship and that this effect is strengthened by culture, institutional quality, policies, and resource accessibility. These findings imply that digital transformation should be approached as an ecosystem phenomenon rather than a purely technological process. Consequently, economic development strategies should integrate technological, institutional, and social dimensions simultaneously to maximize development outcomes. The interaction among these dimensions ultimately determines the effectiveness of digital transformation in promoting sustainable economic growth.

Finally, the study addresses several research gaps identified in previous literature. While earlier studies often focused on digital entrepreneurship or regional ecosystems, this research adopts a broader economic perspective by integrating digital transformation, entrepreneurial ecosystems, and institutional quality into a unified framework. This comprehensive approach contributes to the growing literature on digital economy and provides a more holistic understanding of how digital technologies shape economic development in the contemporary era (Nambisan et al., 2019; Audretsch et al., 2019).

## 6. | CONCLUSION

This study examined the relationship between digital transformation, entrepreneurial ecosystems, institutional quality, and economic growth through a systematic literature review approach. The findings indicate that digital transformation has become a major driver of economic development by enhancing productivity, facilitating innovation, and expanding entrepreneurial opportunities. The integration of digital technologies into economic activities enables firms and individuals to create value more efficiently and adapt to rapidly changing market environments. However, the study also reveals that the impact of digital transformation on economic growth is not solely determined by technological advancement. Instead, its effectiveness largely depends on the presence of supportive entrepreneurial ecosystems, high-quality institutions, and adequate economic resources.

The review highlights that entrepreneurial ecosystems serve as important mechanisms for translating digital capabilities into economic outcomes through collaboration, knowledge exchange, and resource mobilization. Institutional quality further strengthens this process by reducing uncertainty and creating favorable conditions for innovation and business development. These findings suggest that sustainable economic growth in the digital era requires an integrated approach that combines technological development with institutional reforms and ecosystem strengthening. Future studies are encouraged to conduct empirical investigations using

cross-country data to further validate the relationships among digital transformation, entrepreneurship, and economic performance across different economic contexts.

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The authors declare that there is no conflict of interest.

***Ethical Approval and Originality Statement***

Ethical approval was obtained for this study. The manuscript represents original work and has not been previously published, nor is it under consideration by another journal.

***Data Disclosure Statement***

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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