

# Revisiting the Relationship between Foreign Direct Investment, Digital Competitiveness, and Economic Growth in Emerging Economies

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## ABSTRACT

**Purpose** – This study examines the relationship between Foreign Direct Investment (FDI), digital competitiveness, and economic growth in developing and emerging economies. It addresses the fragmented literature by systematically synthesizing how digital readiness enhances the effectiveness of FDI spillovers in promoting sustainable economic growth.

**Design/methodology/approach** – A scoping review was conducted following the PRISMA-ScR framework. Literature published between 2018 and 2026 was collected from Scopus, Web of Science, and Google Scholar. From 530 initial records, 50 peer-reviewed articles met the inclusion criteria and were analyzed through thematic classification and conceptual synthesis.

**Findings** – The review shows that the FDI-growth relationship has shifted from a capital-driven perspective to a capability-based framework. Digital competitiveness, technological readiness, innovation systems, and absorptive capacity significantly strengthen the impact of FDI by facilitating domestic innovation, productivity improvement, and sustainable economic growth.

**Originality/Value** – This study positions digital competitiveness as a key enabling mechanism within the FDI-growth nexus, integrating two previously fragmented research streams. The findings suggest that policymakers should complement FDI attraction strategies with digital transformation, technological capability development, and institutional strengthening to maximize long-term economic competitiveness.

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## 1. Introduction

Digital transformation has become one of the most significant drivers of global economic change in the 21st century. The rapid development of information and communication technologies (ICT), digital infrastructure, and innovation ecosystems have increasingly reshaped economic competitiveness, productivity, and long-term growth dynamics, particularly in developing and emerging economies (Latif et al., 2018; Nguyen et al., 2020). In recent years, digitalization has increasingly influenced how countries enhance innovation capability, improve economic efficiency, and strengthen their integration into the global economy. The acceleration of digital adoption following the COVID-19 pandemic has further reinforced the strategic importance of digital technologies in supporting economic resilience and structural transformation.

At the same time, foreign direct investment (FDI) remains one of the key drivers of economic development. In emerging economies, FDI contributes not only through capital inflows but also through technology transfer, productivity enhancement, industrial upgrading, and integration into global value chains (Hanif et al., 2019; Shahbaz et al., 2020). From a development economics perspective, FDI has traditionally been viewed as an important mechanism for accelerating industrialization and economic expansion, particularly in countries with limited domestic capital and technological capability.

Nevertheless, previous studies have produced mixed findings regarding the relationship between FDI and economic growth. While many studies report that FDI positively contributes to economic performance through productivity spillovers and technological diffusion, other studies argue that the impact of FDI is highly conditional upon institutional quality, governance structures, financial development, and absorptive capacity (Balsalobre-Lorente et al., 2021; Shahbaz et al., 2020). In economies with weak institutional and structural readiness, FDI may fail to generate sustainable growth and may even contribute to environmental degradation and structural dependency (Sarkodie & Strezov, 2019; Y. Zhang & Zhang, 2018). Recent studies further demonstrate that the developmental impact of FDI cannot be separated from sustainability and technological considerations. Hanif et al. (2019) and Nasir et al. (2019) show that although FDI contributes to economic expansion, it may simultaneously intensify environmental pressure and carbon emissions in emerging economies. Similarly, Salahuddin et al. (2018) highlight the complex interaction between FDI, financial development, electricity consumption, and environmental sustainability. These findings suggest that the effectiveness of FDI increasingly depends not only on capital accumulation but also on the structural and technological capacity of host economies.

More recently, the literature has increasingly emphasized the importance of digital capability and ICT development in strengthening economic performance and competitiveness. Digital readiness and technological capability are increasingly recognized as important factors influencing innovation, productivity, and economic modernization in emerging economies (Latif et al., 2018; Nguyen et al., 2020). Economies with stronger technological capabilities are generally better positioned to absorb technological spillovers, improve productivity, and maximize the benefits of globalization and foreign investment.

The growing importance of digital capability also reflects a broader shift in the literature from traditional capital-driven growth models toward more integrated and capability-based development frameworks. Recent studies increasingly argue that economic growth in the digital era is determined not only by the quantity of foreign investment but also by the technological readiness and innovation capacity of host economies (Nguyen et al., 2020). This

issue is particularly relevant in emerging economies, where digital disparities and uneven technological development remain significant challenges.

Despite extensive research on the FDI–growth nexus, the existing literature remains fragmented and, in several respects, inconclusive. Earlier studies predominantly focused on linear relationships between FDI and economic growth, whereas more recent studies indicate that the interaction between FDI and digital capability introduces more complex and multidimensional dynamics. However, much of the existing literature still does not comprehensively explain how digital transformation reshapes the effectiveness of FDI in generating sustainable economic growth.

Accordingly, this study raises the following research question: *How does the existing literature conceptualize and explain the relationship between foreign direct investment, digital competitiveness, and economic growth in emerging economies?*

Based on this question, the objective of this study is to systematically map and synthesize prior research concerning the relationship between foreign direct investment, digital competitiveness, and economic growth by employing a scoping review approach. Specifically, this study aims to identify dominant themes, theoretical developments, and research gaps in order to provide a clearer understanding of how digital transformation reshapes the role of FDI in contemporary economic growth.

## **2. Literature Review and Conceptual Framework**

### **2.1 Foreign Direct Investment and Economic Growth**

Foreign direct investment (FDI) has long been recognized as one of the major drivers of economic growth, particularly in developing and emerging economies. From a neoclassical economic perspective, FDI contributes to growth by increasing capital accumulation, generating employment opportunities, and improving productivity through technology transfer and managerial expertise. In countries with limited domestic capital and technological capability, FDI is often considered an important mechanism for accelerating industrialization and economic expansion (Hanif et al., 2019; Latif et al., 2018).

A substantial body of literature supports the positive relationship between FDI and economic growth. Empirical studies suggest that FDI enhances economic performance through productivity spillovers, export competitiveness, technological diffusion, and increased efficiency (Latif et al., 2018; Shahbaz et al., 2020). In emerging economies, FDI also plays a strategic role in integrating domestic industries into global value chains and international production networks.

However, the literature also reveals inconsistent findings regarding the effectiveness of FDI. Several studies argue that the impact of FDI is highly conditional and depends on factors such as institutional quality, human capital, financial development, governance structures, and macroeconomic stability (Balsalobre-Lorente et al., 2021; Shahbaz et al., 2020). In economies where these supporting conditions are weak, FDI may produce limited benefits or fail to generate sustainable long-term growth.

More critically, recent studies increasingly highlight the multidimensional consequences of FDI beyond economic performance alone. While FDI contributes positively to industrial expansion and productivity, it may simultaneously intensify environmental degradation and carbon emissions in emerging economies (Hanif et al., 2019; Sarkodie & Strezov, 2019). Similar findings are reported by Y. Zhang & Zhang (2018), who argue that FDI inflows may increase

environmental pressure when accompanied by carbon-intensive industrial structures and weak environmental regulation.

In the ASEAN context, Nasir et al. (2019) further demonstrate that the interaction between financial development, economic growth, and FDI significantly influences climate change dynamics, indicating that the developmental impact of FDI cannot be separated from broader structural and sustainability considerations. Likewise, Salahuddin et al. (2018) show that FDI, together with electricity consumption and financial development, contributes to increasing CO<sub>2</sub> emissions, highlighting the complex relationship between economic growth and environmental sustainability.

These inconsistencies indicate that FDI alone does not automatically guarantee sustainable economic growth. Instead, the effectiveness of foreign investment depends on the absorptive capacity, institutional readiness, and structural capability of host economies to utilize external capital and technology productively. Consequently, recent developments in the literature increasingly emphasize that the impact of FDI is conditional, context-dependent, and closely linked to the broader economic and technological environment of the host country.

## **2.2 Digital Competitiveness and Economic Growth**

Digital competitiveness has increasingly become a central factor in explaining economic growth in the digital era. The development of information and communication technologies (ICT), digital infrastructure, digitalization, and innovation systems has reshaped how economies improve productivity, competitiveness, and long-term economic performance. In developing and emerging economies, digital capability is no longer viewed merely as supporting infrastructure, but as a strategic asset that enables countries to strengthen innovation, improve efficiency, and participate more effectively in global economic networks (Latif et al., 2018; Nguyen et al., 2020).

Previous studies show that ICT and digital capability contribute to economic growth through productivity improvement, technological diffusion, and innovation enhancement. Latif et al. (2018) demonstrate that ICT, FDI, globalization, and economic growth are closely connected in BRICS economies, suggesting that digital capability strengthens the interaction between external investment and macroeconomic performance. Similarly, Nguyen et al. (2020) highlight that ICT and innovation play important roles in shaping both economic growth and environmental outcomes, indicating that digital capability has multidimensional effects on development.

Beyond ICT, more recent studies have expanded the discussion toward digitalization, digital trade, and digital infrastructure. Bhandari et al. (2023) show that digitalization strengthens firm performance and internationalization, suggesting that digital transformation enhances competitiveness at the firm level. Elfaki & Ahmed (2024) further emphasize that digital technology adoption and globalization contribute to green sustainable economic growth, particularly in Asia-Pacific economies. These findings indicate that digital competitiveness supports economic growth not only through technological efficiency but also through broader innovation and sustainability pathways.

The literature also shows that digital competitiveness is closely related to productivity and structural transformation. Dai et al. (2025) demonstrate that digital trade, trade openness, and FDI contribute to green total factor productivity, suggesting that digitalization can improve resource allocation and economic efficiency. In a similar direction, Bingxin et al. (2025) highlight the connection between digitalization and renewable energy transition in Belt and

Road countries, showing that digital development can support both economic and sustainability objectives.

In addition, digital competitiveness strengthens innovation capacity, which is essential for long-term economic growth. Khurshid et al. (2024) show that environmental regulation, FDI, and research and development contribute to technological development in Europe. B. Xu & Lin (2025) also find that FDI supports green technology innovation, indicating that digital and innovation-related capabilities can enhance economic competitiveness. These studies suggest that digital competitiveness functions as an enabling mechanism that helps economies transform external resources, technology, and investment into productivity and innovation outcomes.

However, the impact of digital competitiveness on economic growth is not automatic. Its effectiveness depends on supporting conditions such as technological readiness, institutional capacity, innovation systems, and human capital. J. Wang et al. (2022) show that ICT agglomeration and FDI interact in shaping environmental outcomes, suggesting that the effects of digital capability may vary depending on local technological and structural conditions. Murshed (2020) also demonstrates that ICT and trade openness influence renewable energy transition and sustainability outcomes in South Asia, indicating that digital development must be supported by broader economic and policy readiness.

Taken together, the literature suggests that digital competitiveness plays a strategic role in shaping economic growth by enhancing productivity, innovation, technological absorption, and sustainability-oriented development. More importantly, digital competitiveness provides an important bridge between foreign direct investment and economic growth, as economies with stronger digital and technological capabilities are better able to absorb spillovers, improve competitiveness, and transform foreign investment into long-term development outcomes. Thus, digital competitiveness should be understood not merely as a technological variable, but as a multidimensional capability that supports economic modernization and strengthens the effectiveness of FDI in the digital era.

### **2.3 The Relationship between FDI and Digital Competitiveness**

The relationship between foreign direct investment (FDI) and digital competitiveness has increasingly become an important issue in the contemporary economic development literature. Traditionally, FDI has been understood as a source of external capital, technology transfer, managerial expertise, and industrial upgrading. However, recent studies suggest that the effectiveness of FDI is increasingly influenced by the technological and digital capability of host economies. In this context, digital competitiveness functions as an enabling mechanism that determines how effectively economies absorb, utilize, and transform foreign investment into productivity gains, innovation, and sustainable economic growth.

Several studies in the reviewed literature demonstrate that information and communication technologies (ICT), digitalization, and technological capability strengthen the interaction between FDI and economic performance. Latif et al. (2018) show that ICT, globalization, FDI, and economic growth are closely interconnected in BRICS economies. Their findings suggest that digital capability enhances connectivity, technological diffusion, and productivity, thereby strengthening the developmental impact of FDI. Similarly, Nguyen et al. (2020) argue that ICT and innovation significantly influence economic growth and environmental performance, indicating that technological readiness shapes the effectiveness of economic transformation processes.

The literature further suggests that digital competitiveness strengthens the absorptive capacity of host economies. Economies with stronger technological infrastructure, innovation systems, and digital readiness are generally more capable of absorbing spillovers from foreign investment and transforming them into productivity and innovation enhancement. A. Khan et al. (2021) demonstrates that technological innovation and FDI jointly contribute to economic and energy transformation in Belt and Road Initiative countries, indicating that innovation capability plays a crucial role in maximizing the developmental impact of foreign investment. Similarly, B. Xu & Lin (2025) show that FDI positively influences green technology innovation, suggesting that technological readiness and innovation systems are essential for enabling host economies to effectively utilize external knowledge, technology transfer, and investment spillovers.

More recent studies also connect FDI and digital competitiveness to sustainability-oriented development. Ali et al. (2022) show that FDI and green innovation significantly influence environmental quality in BRICS economies, indicating that technological capability increasingly determines whether foreign investment generates sustainable development outcomes. Wang et al. (2023) further highlight that technological innovation, sustainability, and FDI are closely interconnected in European economies, suggesting that innovation systems and digital capability strengthen long-term competitiveness and structural transformation.

The relationship between FDI and digital competitiveness is also reflected in digital trade and digital transformation processes. Dai et al. (2025) reveal that digital trade, trade openness, and FDI significantly contribute to green total factor productivity, indicating that digital competitiveness improves economic efficiency and resource allocation. Similarly, Bingxin et al. (2025) highlight that digitalization supports renewable energy transition in Belt and Road countries, suggesting that digital transformation increasingly shapes both economic modernization and sustainability-oriented development.

At the firm and industrial levels, digital transformation also strengthens competitiveness and internationalization processes associated with foreign investment. Bhandari et al. (2023) show that digitalization improves firm performance and supports international business activities, suggesting that digital capability strengthens organizational competitiveness within global markets. In addition, Elfaki & Ahmed (2024) argue that digital technology adoption and globalization contribute significantly to green economic growth, indicating that digital competitiveness increasingly functions as a strategic driver of sustainable economic transformation.

However, the literature also reveals that the relationship between FDI and digital competitiveness is highly conditional and context-dependent. Wang et al. (2022) demonstrate that ICT agglomeration and FDI interact in shaping environmental and economic outcomes, suggesting that the impact of digital capability may vary across regions depending on technological readiness and institutional quality. Murshed (2020) similarly finds that ICT, trade openness, and FDI influence renewable energy transition and sustainability performance in South Asia, but their effectiveness depends heavily on policy support, infrastructure quality, and structural readiness.

In addition, several studies suggest that weak institutional structures and inadequate digital readiness may limit the positive impact of FDI. Balsalobre-Lorente et al. (2021) and Shahbaz et al. (2020) argue that institutional quality, governance effectiveness, and financial development significantly influence the relationship between FDI and economic growth. This indicates that

digital competitiveness alone is insufficient without broader structural and institutional support. In economies with weak governance and limited technological capability, FDI may fail to generate innovation-driven growth and may instead intensify structural dependency and environmental pressure.

Recent studies further indicate that digital competitiveness increasingly interacts with innovation-driven and sustainability-oriented development goals. Biswas et al. (2026) emphasize that innovation capability and foreign investment contribute significantly to sustainable development objectives, while A. Khan & Sun (2026) show that the digital economy plays an important role in supporting green growth and energy transition. These findings reinforce the argument that digital competitiveness has evolved from a purely technological concept into a multidimensional development capability that integrates innovation, productivity, sustainability, and structural transformation.

Taken together, the literature suggests that FDI and digital competitiveness are increasingly interdependent in the digital economy era. FDI provides external resources, technology, and knowledge, while digital competitiveness determines the capacity of host economies to absorb and transform these resources into productivity, innovation, and sustainable development outcomes. This reflects a broader shift in the literature from traditional capital-driven growth models toward more integrated and capability-based development frameworks, where technological readiness, digital capability, and innovation systems become central factors explaining the effectiveness of FDI in supporting long-term economic growth.

#### **2.4 Theoretical Perspective**

The relationship between foreign direct investment (FDI), digital competitiveness, and economic growth can be explained through several theoretical perspectives, particularly neoclassical growth theory, endogenous growth theory, technology spillover theory, and the capability-based view of development. These perspectives provide a conceptual foundation for understanding why FDI does not automatically generate economic growth and why digital capability increasingly becomes an important condition in shaping development outcomes.

From the perspective of neoclassical growth theory, FDI is viewed as an external source of capital accumulation that contributes to economic growth by increasing investment, expanding production capacity, creating employment, and supporting industrialization. This perspective is reflected in studies showing that FDI, economic development, and energy consumption are closely related to growth and environmental outcomes in developing economies (Hanif et al., 2019; Sarkodie & Strezov, 2019). However, this perspective is limited because it tends to assume that capital inflows directly translate into growth, while empirical findings show that the effect of FDI is often conditional and context-dependent.

Endogenous growth theory provides a broader explanation by emphasizing the role of knowledge, innovation, human capital, and technological progress in long-term economic growth. In this view, FDI contributes to development not only through capital inflows but also through knowledge diffusion, technological learning, and productivity spillovers. Studies by Latif et al. (2018) and (Nguyen et al., 2020) support this perspective by showing that ICT, innovation, FDI, and economic growth are interrelated. This indicates that technological capability and digital readiness are important for transforming external investment into productivity and innovation outcomes.

Technology spillover theory further explains how FDI can generate economic benefits through the transfer of technology, managerial knowledge, and innovation practices from foreign firms to domestic economies. However, these spillovers are not automatic. Their effectiveness

depends on the ability of host economies to absorb and apply external knowledge. Studies on technological innovation and green transformation show that innovation systems, financial development, and FDI can jointly influence sustainable development outcomes (Khan & Sun, 2026; Wang et al., 2023). This suggests that digital competitiveness strengthens absorptive capacity by enabling economies to better utilize technology transfer and innovation spillovers. The capability-based view of development is also relevant in explaining the integrated relationship between FDI, digital competitiveness, and economic growth. This perspective argues that development is not determined only by the availability of external capital, but also by the internal capability of economies to use resources effectively. Digital competitiveness represents such a capability because it reflects technological readiness, ICT development, digital infrastructure, and innovation capacity. Studies on digitalization, digital trade, and renewable energy transition show that digital capability contributes to green productivity, energy transition, and sustainability-oriented economic transformation (Bingxin et al., 2025; Dai et al., 2025; Elfaki & Ahmed, 2024)

Taken together, these theoretical perspectives suggest that the FDI–growth relationship should not be understood as a simple linear relationship. Instead, FDI contributes to economic growth more effectively when supported by digital capability, technological readiness, innovation systems, and institutional conditions. Therefore, digital competitiveness can be positioned as an enabling mechanism that strengthens the ability of host economies to transform foreign investment into sustainable, innovation-driven, and long-term economic growth.

## **2.5 Research Gap**

Despite the growing body of literature examining foreign direct investment (FDI), digital competitiveness, and economic growth, several important gaps remain unresolved. First, much of the earlier literature predominantly examines the relationship between FDI and economic growth from a direct and linear perspective. These studies generally emphasize the role of FDI in increasing capital accumulation, productivity, industrial expansion, and economic performance. However, empirical findings remain inconsistent. While some studies report that FDI contributes positively to economic growth, other studies show that the developmental impact of FDI depends heavily on institutional quality, financial development, governance effectiveness, and absorptive capacity (Hanif et al., 2019; Sarkodie & Strezov, 2019; Shahbaz et al., 2020).

Second, studies on digital competitiveness and ICT development have largely evolved independently from the mainstream FDI–growth literature. Existing studies primarily focus on the impact of ICT, digitalization, and innovation on productivity, competitiveness, sustainability, and economic modernization (Elfaki & Ahmed, 2024; Latif et al., 2018; Nguyen et al., 2020). Although these studies highlight the importance of technological capability and digital transformation, they often do not explicitly explain how digital competitiveness interacts with FDI in shaping long-term economic growth.

Third, the reviewed literature increasingly indicates that economic growth in the digital era is multidimensional and strongly connected to sustainability-oriented development. Recent studies show that digitalization, technological innovation, and FDI influence renewable energy transition, green productivity, and environmental sustainability (Bingxin et al., 2025; Dai et al., 2025; Khan et al., 2021). However, most studies still examine these relationships separately, resulting in fragmented explanations regarding how digital competitiveness

mediates or strengthens the effectiveness of FDI in supporting sustainable economic transformation.

Fourth, the literature also reveals limited integration between technological capability, innovation systems, and institutional readiness within the FDI–growth framework. Several studies emphasize that the effectiveness of FDI depends on structural conditions such as technological readiness, governance quality, innovation capacity, and policy support (Balsalobre-Lorente et al., 2021; Wang et al., 2022). Nevertheless, there is still insufficient synthesis explaining how these structural factors collectively shape the relationship between FDI, digital competitiveness, and economic growth, particularly in developing and emerging economies.

Finally, most previous studies employ econometric and quantitative approaches that focus on testing causal relationships among variables. While these approaches provide important empirical evidence, they often fail to comprehensively capture the broader conceptual evolution of the literature. As a result, there remains limited understanding regarding how the role of digital competitiveness has evolved within the FDI–growth nexus over time.

Accordingly, this study addresses these gaps by conducting a scoping review that systematically maps and synthesizes the existing literature concerning the relationship between foreign direct investment, digital competitiveness, and economic growth. Unlike previous studies that examine these relationships separately, this study positions digital competitiveness as a central analytical dimension that shapes the effectiveness of FDI in generating sustainable and innovation-driven economic growth. Through this approach, the study aims to provide a more integrated, capability-based, and contemporary understanding of the FDI–growth relationship in the digital era.

## **2.6 Conceptual Framework**

Based on the reviewed literature and theoretical perspectives, this study proposes a conceptual framework that explains the integrated relationship between foreign direct investment (FDI), digital competitiveness, and economic growth. The framework reflects the growing consensus in the literature that the impact of FDI on economic growth is increasingly influenced by the technological capability, digital readiness, and structural conditions of host economies.

Traditionally, FDI has been viewed as an external source of capital accumulation that contributes to economic growth through investment expansion, employment creation, industrial upgrading, and technology transfer. From the neoclassical perspective, FDI stimulates economic activity by increasing production capacity and supporting industrialization processes. However, more recent studies suggest that the developmental impact of FDI is not automatic and depends heavily on the absorptive capacity and institutional readiness of host economies (Hanif et al., 2019; Shahbaz et al., 2020).

The literature increasingly emphasizes that the effectiveness of FDI is closely associated with digital competitiveness. In the digital economy era, economies with stronger ICT infrastructure, technological readiness, innovation systems, and digital capability are generally more capable of absorbing technological spillovers generated by foreign investment (Latif et al., 2018; Nguyen et al., 2020). This suggests that digital competitiveness functions as an enabling mechanism that strengthens the ability of economies to transform external investment into productivity enhancement, innovation performance, and sustainable economic growth.

The framework further highlights the role of technology transfer as an important transmission mechanism connecting FDI and digital competitiveness. Foreign investment often introduces

advanced technologies, managerial expertise, digital systems, and innovation practices into host economies. However, the benefits of technology transfer depend on whether domestic economies possess sufficient digital capability and innovation readiness to absorb and utilize these external resources productively. Studies by A. Khan et al. (2021), Dai et al. (2025), and R. Wang et al. (2023) indicate that technological innovation, digitalization, and FDI increasingly interact in shaping green productivity, sustainability transformation, and long-term economic competitiveness.

The framework also reflects the growing shift in the literature from traditional capital-driven growth models toward more integrated and capability-based development frameworks. Recent studies increasingly argue that economic growth in the digital era is shaped not only by the quantity of foreign investment, but also by the ability of economies to integrate digital transformation, innovation systems, and sustainability-oriented development into broader economic structures (Bhandari et al., 2023; Elfaki & Ahmed, 2024). Therefore, digital competitiveness should be understood not merely as a technological variable, but as a multidimensional capability that determines how effectively economies can utilize foreign investment to generate innovation-driven and sustainable development outcomes.

Accordingly, this study positions digital competitiveness as a strategic mediating and enabling mechanism within the FDI–growth relationship. The framework suggests that FDI contributes more effectively to economic growth when supported by strong digital capability, technological readiness, innovation systems, and institutional support. Thus, the relationship between FDI and economic growth should be understood as conditional, context-dependent, and increasingly shaped by digital transformation processes in the contemporary global economy.

**Figure 1.** Conceptual Framework

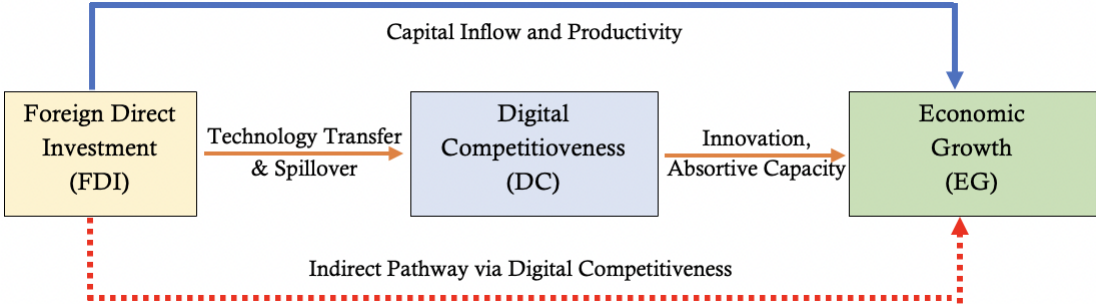


Figure 1 illustrates the conceptual framework developed in this study, which synthesizes the relationships identified in the reviewed literature. The framework shows that foreign direct investment (FDI) influences economic growth through both direct and integrated pathways. The direct pathway reflects the role of FDI in providing capital inflows and enhancing productivity, while the integrated pathway highlights the importance of digital competitiveness as an enabling mechanism.

Digital competitiveness facilitates the absorption of technology spillovers from foreign investments, strengthens innovation capacity, and improves overall economic performance. This indicates that the impact of FDI on economic growth is not uniform but depends on the level of digital readiness and absorptive capacity within an economy. Thus, the framework emphasizes the complementary role of digital competitiveness in maximizing the benefits of FDI.

### 3. Methodology

This study employs a scoping review design to systematically map and synthesize the existing literature on the relationship between foreign direct investment (FDI), digital competitiveness, and economic growth. This approach is appropriate for examining broad, complex, and evolving research areas, particularly in the context of rapid digital transformation. The review process follows the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Scoping Reviews) framework to ensure transparency, consistency, and methodological rigor in identifying, screening, and selecting relevant studies (Qiu & Gu, 2022; Tran et al., 2024; Veroniki et al., 2025)

Recent methodological developments emphasize that PRISMA-ScR provides a structured and standardized protocol for reporting evidence synthesis studies, including clear documentation of identification, screening, eligibility, and inclusion stages. This enhances the reproducibility and credibility of scoping review research (Qiu & Gu, 2022; Tran et al., 2024). Furthermore, updates in evidence synthesis methodologies highlight the importance of adapting PRISMA-based frameworks to emerging review types, including scoping and rapid reviews, to ensure methodological robustness (Veroniki et al., 2025).

The subject of this study consists of peer-reviewed journal articles related to FDI, digital competitiveness, and economic growth. Meanwhile, the object of analysis focuses on the conceptual and empirical relationships among these variables, particularly how digital competitiveness influences the effectiveness of FDI in promoting economic growth in emerging economies.

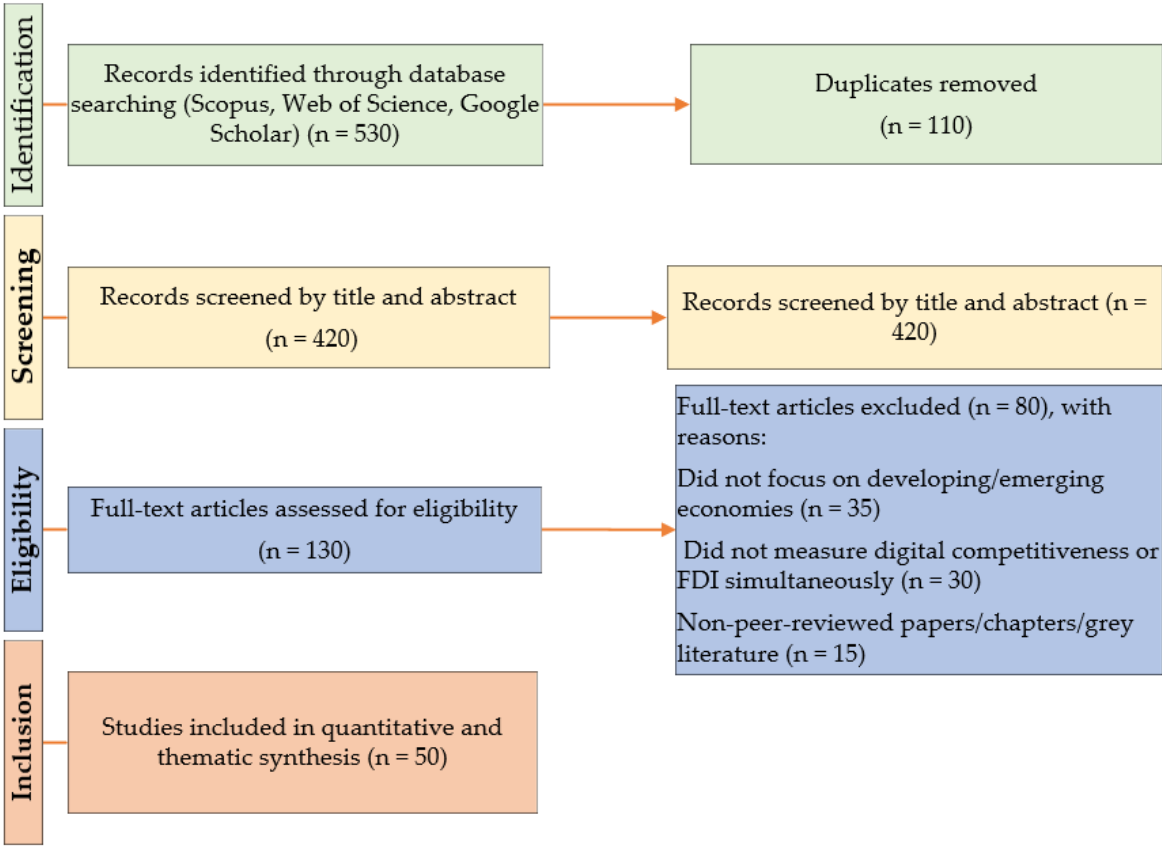
This study uses secondary data obtained from academic databases, primarily Scopus and ScienceDirect. The literature search was conducted across three main domains: foreign direct investment (FDI), digital competitiveness, and economic growth. A total of 170 articles were identified for FDI, 180 articles for digital competitiveness, and 180 articles for economic growth, resulting in an initial pool of 530 records. The search employed combinations of keywords such as foreign direct investment, digital competitiveness, digital economy, digital transformation, economic growth, and emerging economies. To ensure a comprehensive overview and systematic tracking of the literature, the search results were compiled and managed using Mendeley reference management software. While citation counts were documented to identify landmark and highly influential studies within the final pool, the selection procedure strictly adhered to a systematic, relevance-based screening process. All 530 retrieved records were evaluated sequentially against the predefined inclusion and exclusion criteria based on title, abstract, and full-text relevance, ensuring that recently published studies (up to 2026) with lower citation counts were not systematically excluded.

This study focuses on literature published between 2018 to 2026 to capture recent developments in digital transformation and its interaction with FDI and economic growth, particularly in the post-pandemic period. The inclusion criteria consist of: (1) peer-reviewed journal articles, (2) publications written in English, (3) studies published within the selected timeframe, (4) studies addressing at least two of the key variables (FDI, digital competitiveness, and economic growth), and (5) studies focusing on emerging or developing economies. The exclusion criteria include non-peer-reviewed publications, articles without full-text access, and studies not directly relevant to the research topic.

The selection process follows four stages based on the PRISMA-ScR framework, including identification, screening, eligibility, and inclusion, as systematically illustrated in Figure 2.

From the initial 530 records, duplicates were removed, resulting in approximately 420 articles for screening. After screening titles and abstracts, 290 articles were excluded due to irrelevance. Subsequently, 130 full-text articles were assessed for eligibility, and 80 articles were excluded based on predefined inclusion/exclusion criteria. Finally, 50 articles were included in the analysis. To systematically organize and analyze the selected studies, this research employs a data extraction matrix as the primary research instrument. The matrix compiles detailed information from each article, including author(s), publication year, journal, research context, methodology, key variables, main findings, thematic classification, and DOI. The complete dataset of the selected studies is presented in Appendix A (Supplementary Material), ensuring full transparency, verification, and reproducibility of the review process.

**Figure 2.** PRISMA-ScR Flow Diagram of the Study Selection Process.



Furthermore, each article was categorized based on its conceptual focus into thematic groups, namely: (A) direct FDI–economic growth relationship and (B) integrated models incorporating FDI, digital competitiveness, and economic growth. This classification enables a deeper understanding of how the literature conceptualizes the interaction among the variables.

The data analysis method combines descriptive analysis, thematic analysis, and narrative synthesis. Descriptive analysis is used to examine the distribution of studies across time and thematic groups. Thematic analysis is applied to identify patterns in how the relationships among FDI, digital competitiveness, and economic growth are conceptualized. To ensure coding consistency, the thematic classification decisions were conducted through an iterative review process by a single reviewer. While a formal inter-rater reliability (IRR) assessment was not executed, this structured approach-maintained uniformity in data extraction, and the reliance on a single evaluator is openly acknowledged as a limitation. Finally, narrative

synthesis is employed to interpret the findings, explain the underlying mechanisms, and identify research gaps in the literature

#### **4. Result and Discussion**

This section presents the results of the scoping review based on the selected studies identified through the PRISMA-ScR process. The findings are organized into several analytical components to provide a systematic understanding of the evolving relationship between foreign direct investment (FDI), digital competitiveness, and economic growth.

First, the distribution and characteristics of the selected studies are presented to illustrate the general profile of the reviewed literature, including thematic orientation, dominant variables, methodological approaches, and publication trends. Second, the findings are synthesized through thematic analysis by classifying the literature into two major conceptual groups, namely the direct effect model and the integrated model. This classification allows the study to identify how the conceptualization of the FDI–growth relationship has evolved over time. Furthermore, the analysis explores the emergence of digital competitiveness as an increasingly important explanatory mechanism within the FDI–growth nexus. Particular attention is given to the growing role of ICT development, digital infrastructure, innovation systems, technological readiness, and absorptive capacity in shaping economic performance in developing and emerging economies.

Overall, the results indicate a significant shift in the literature from traditional capital-driven perspectives toward more integrated and capability-based approaches. While earlier studies primarily emphasized the direct contribution of FDI to economic growth through capital accumulation and productivity enhancement, more recent studies increasingly highlight the importance of digital competitiveness, innovation capability, and structural readiness in determining the effectiveness of foreign investment.

The following subsections present the detailed findings of the review, including the distribution of selected studies, thematic classification, temporal evolution of the literature, and the integrated role of digital competitiveness within the FDI–growth framework.

##### **4.1 Distribution of Selected Studies**

Based on the PRISMA-ScR selection process, a total of 50 articles were included in the final analysis from an initial pool of 530 records. The selected studies were classified into two major thematic groups according to their conceptual orientation, namely the direct effect model (Group A) and the integrated model (Group B).

The direct effect model primarily examines the relationship between FDI and economic growth without explicitly incorporating digital dimensions. Studies in this category generally focus on capital accumulation, productivity enhancement, employment generation, industrial expansion, and the macroeconomic impact of foreign investment. In contrast, the integrated model positions digital competitiveness as an enabling mechanism that strengthens the effectiveness of FDI through digital infrastructure, technological readiness, innovation systems, and absorptive capacity.

The distribution of studies indicates that 28 articles (56%) belong to Group A, while 22 articles (44%) fall under Group B. This distribution demonstrates that although conventional FDI–growth studies remain dominant; the literature increasingly shifts toward more integrated and digitally oriented perspectives. The growing number of studies within Group B also reflects the rising importance of digital transformation in explaining contemporary economic growth dynamics.

More importantly, the distribution pattern reveals an evolution in the conceptual orientation of the literature over time. Earlier studies tend to adopt a traditional perspective in which FDI is viewed primarily as a direct source of capital accumulation and economic expansion. However, more recent studies increasingly emphasize that the developmental impact of FDI depends on broader structural conditions, particularly technological capability, digital readiness, institutional quality, and innovation capacity. As a result, digital competitiveness gradually emerges as a central explanatory mechanism within the FDI–growth nexus.

To provide a clearer overview of the reviewed studies, Table 1 summarizes the characteristics of the selected articles based on their thematic focus, main variables, methodological approaches, and principal findings. Since this study adopts a scoping review design, the results are presented in a descriptive and thematic form rather than through hypothesis testing or inferential statistical analysis. The purpose of this section is not to test causal relationships among variables, but to map the development of the literature, identify dominant themes, and synthesize how previous studies conceptualize the relationship between foreign direct investment, digital competitiveness, and economic growth.

**Table 1.** Main Characteristics of Selected Studies by Thematic Focus

<b>Theme</b>	<b>Main Focus</b>	<b>Representative Studies (Include Studies n=50)</b>
Growth and FDI	Relationship between foreign direct investment, globalization, ICT, and economic growth	(Baz et al., 2021; A. Khan et al., 2020; I. Khan et al., 2024; Latif et al., 2018) <b>(4 studies)</b>
Environment and FDI	Investigates the environmental consequences of FDI, including carbon emissions and environmental degradation	(Abid et al., 2022; Acheampong & Opoku, 2023; Adams & Acheampong, 2019; Baloch et al., 2019; Hanif et al., 2019; Muhammad et al., 2021; Nasir et al., 2019; Pham et al., 2020; Salahuddin et al., 2018; Sarkodie & Strezov, 2019; Shahbaz et al., 2018, 2020; Zafar et al., 2020; Y. Zhang & Zhang, 2018; Zhao et al., 2020; Zhu et al., 2019) <b>(16 studies)</b>
Technology and FDI	Explores the interaction between ICT, technological innovation, FDI, and economic or environmental performance	(Acheampong et al., 2022; Dai et al., 2025; Elfaki & Ahmed, 2024; Hao et al., 2021; Nguyen et al., 2020; J. Wang et al., 2022)

Innovation and FDI	Examines how FDI contributes to innovation systems, green innovation, and technological spillovers	(Acheampong & Boateng, 2019; Ahmad et al., 2021; Chishti & Sinha, 2022; Khurshid et al., 2024; Luo et al., 2021; J. Zhang & Wu, 2026) <b>(6 studies)</b>
Green Innovation and FDI	Focuses on the role of green innovation in mediating the impact of FDI on sustainability and emissions	(Ali et al., 2022; Sun et al., 2023; B. Xu & Lin, 2025; L. Xu et al., 2021) <b>(4 studies)</b>
Energy and FDI	Analyzes the relationship between FDI, renewable energy transition, energy consumption, and sustainability	(Balsalobre-Lorente et al., 2021; Bingxin et al., 2025; Fan & Hao, 2020; A. Khan et al., 2021; A. Khan & Sun, 2026) <b>(5 studies)</b>
Sustainability and Digitalization	Investigates the role of ICT, trade openness, and digitalization in supporting sustainability and renewable energy transition	(Biswas et al., 2026; Murshed, 2020; Murshed et al., 2021; Tolliver et al., 2021; Z. Wang, 2023) <b>(5 studies)</b>
Institutional and Regulatory Context	Explores the importance of environmental regulation, institutional support, and governance in shaping the effectiveness of FDI	(Bhandari et al., 2023; Garbe et al., 2026; Ho, 2026; M. Zhang et al., 2023) <b>(4 studies)</b>

The findings are therefore reported through descriptive classification, thematic grouping, and narrative synthesis. This approach enables the study to identify patterns, similarities, differences, and conceptual shifts across the reviewed articles. In particular, the analysis focuses on how the selected studies explain the direct effect of FDI on economic growth, the role of digital competitiveness as an enabling mechanism, and the conditions under which FDI contributes to sustainable and innovation-driven economic development. Through this structure, the results provide a transparent basis for interpreting the reviewed literature and justifying the conclusions of the study.

#### 4.2 Thematic Analysis of Findings

To better synthesize the reviewed literature, the selected studies were classified into two major thematic groups based on their conceptual orientation. The first group focuses on the direct relationship between foreign direct investment (FDI) and economic growth, while the second group incorporates digital competitiveness as an enabling mechanism within the FDI–growth nexus. This classification reflects the conceptual evolution of the literature from traditional capital-driven growth perspectives toward more integrated and capability-based development approaches.

**Table 2.** Thematic Classification of the Reviewed Literature

Group	Main Focus	Key Perspective	Representative Studies
<b>Group A</b>	Direct Effect Model	FDI acts as a direct driver of economic growth through capital accumulation, productivity enhancement, and industrial expansion	(Hanif et al., 2019; Nasir et al., 2019; Salahuddin et al., 2018; Sarkodie & Strezov, 2019; Shahbaz et al., 2020)
<b>Group B</b>	Integrated Capability-Based Model	Digital competitiveness strengthens the effectiveness of FDI through innovation capability, ICT development, absorptive capacity, and technological readiness	(Dai et al., 2025; Latif et al., 2018; Nguyen et al., 2020; J. Wang et al., 2022)

Table 2 presents the thematic classification of the reviewed literature based on the dominant conceptual orientation of the selected studies. The classification demonstrates that the literature concerning foreign direct investment (FDI), digital competitiveness, and economic growth can generally be divided into two major analytical perspectives.

Group A represents the direct effect model, which conceptualizes FDI primarily as a direct driver of economic growth. Studies within this group emphasize the traditional role of FDI in stimulating economic expansion through capital accumulation, industrial development, productivity enhancement, and employment generation. This perspective is largely grounded in neoclassical growth theory, where foreign investment is viewed as an external source of capital and technology that directly contributes to macroeconomic growth. Representative studies in this category, such as Hanif et al. (2019), Nasir et al. (2019), Salahuddin et al. (2018), and Sarkodie & Strezov (2019), mainly focus on the economic and environmental implications of FDI, including its interaction with energy consumption, financial development, and carbon emissions.

Meanwhile, Group B reflects a more integrated and capability-based perspective that incorporates digital competitiveness into the FDI–growth relationship. Studies in this category argue that the effectiveness of FDI increasingly depends on digital capability, technological readiness, innovation systems, and absorptive capacity. Rather than viewing FDI solely as a source of capital accumulation, this perspective emphasizes the importance of ICT development, digital infrastructure, innovation capability, and technological transformation in maximizing the developmental benefits of foreign investment. Representative studies such as Latif et al. (2018), Nguyen et al. (2020), Wang et al. (2022), and Dai et al. (2025) demonstrate that economies with stronger digital competitiveness are generally more capable of absorbing technological spillovers and transforming foreign investment into innovation-driven and sustainable economic growth.

Overall, the thematic classification presented in Table 2 illustrates a significant conceptual shift in the literature. Earlier studies tend to adopt a traditional capital-driven perspective in explaining the FDI–growth nexus, whereas more recent studies increasingly emphasize the multidimensional role of digital competitiveness, technological capability, and innovation systems. This shift indicates that contemporary economic growth is no longer understood solely as the result of capital inflows, but also as the outcome of the interaction between foreign investment, digital transformation, and structural readiness.

### 4.3 Direct Effect of FDI on Economic Growth (Group A)

The literature classified in Group A conceptualizes FDI as a direct driver of economic growth through capital accumulation, productivity enhancement, industrial expansion, and employment generation. This perspective is dominant in developing and emerging economies where limitations in domestic capital and technological capability increase dependence on foreign investment as a source of economic expansion. Studies such as Hanif et al. (2019), Nasir et al. (2019), and Salahuddin et al. (2018) emphasize that FDI contributes positively to economic activity, industrial productivity, and macroeconomic development.

However, the reviewed findings are not entirely consistent. Several studies demonstrate that the effectiveness of FDI depends heavily on institutional quality, governance structures, financial development, and absorptive capacity. Shahbaz et al. (2020) argue that financial development and institutional support significantly influence the effectiveness of FDI in generating sustainable economic growth. Similarly, Wang et al. (2023) emphasize that technological capability and innovation systems play important roles in strengthening the developmental contribution of foreign investment.

The literature also increasingly highlights the multidimensional consequences of FDI beyond economic performance alone. Hanif et al. (2019), Sarkodie & Strezov (2019), and Y. Zhang & Zhang (2018) demonstrate that although FDI contributes positively to industrial activity and economic expansion, it may simultaneously intensify environmental degradation and carbon emissions in emerging economies. Nasir et al. (2019) further show that the interaction between FDI, financial development, and economic growth significantly affects climate change dynamics, indicating that the impact of FDI cannot be separated from broader sustainability considerations.

A temporal mapping of the literature from 2018 to 2026 reveals a gradual conceptual evolution within the FDI–growth literature. Earlier studies predominantly adopt a classical perspective in which FDI is viewed primarily as a direct source of capital accumulation and economic expansion. However, more recent studies increasingly emphasize the conditional and context-dependent nature of the FDI–growth relationship. This shift reflects the growing recognition that foreign investment alone is insufficient to ensure sustainable economic growth without adequate institutional, technological, and structural readiness.

**Table 3.** Evolution of the FDI–Growth Literature (2018–2026)

Period	Dominant Perspective	Main Characteristics
2018–2019	Classical FDI–Growth Perspective	FDI viewed primarily as a direct driver of economic growth through capital accumulation and industrial expansion
2020–2022	Conditional FDI Perspective	Increasing emphasis on institutional quality, governance effectiveness, financial development, and absorptive capacity
2023–2026	Integrated Capability-Based Perspective	Digital competitiveness, innovation systems, and technological readiness

Table 3 presents the evolution of the foreign direct investment (FDI)–growth literature from 2018 to 2026. The temporal classification demonstrates a clear conceptual transformation in how previous studies understand the relationship between FDI and economic growth. Over time, the literature has shifted from traditional capital-driven perspectives toward more integrated, multidimensional, and capability-based approaches.

During the 2018–2019 period, the literature was dominated by the classical FDI–growth perspective. Studies published in this phase generally viewed FDI as a direct driver of economic growth through capital accumulation, industrial expansion, productivity enhancement, and employment creation. Within this perspective, foreign investment was primarily understood as an external source of capital and technology capable of stimulating economic activity and accelerating development processes in developing and emerging economies. Most studies in this period focused mainly on the direct macroeconomic contribution of FDI without extensively considering broader structural and contextual conditions.

The period between 2020 and 2022 reflects an important conceptual transition toward a conditional FDI perspective. During this stage, the literature increasingly emphasized that the effectiveness of FDI depends on supporting factors such as institutional quality, governance effectiveness, financial development, and absorptive capacity. Researchers began to recognize that foreign investment does not automatically generate sustainable economic growth and that its developmental impact varies across countries depending on their structural and institutional readiness. This shift indicates growing academic awareness that economic growth outcomes are strongly influenced by the quality of domestic institutions and the ability of economies to utilize foreign investment effectively.

The most recent phase, covering the period from 2023 to 2026, demonstrates the emergence of an integrated capability-based perspective within the FDI–growth literature. Studies published during this period increasingly incorporate digital competitiveness, innovation systems, technological readiness, and digital transformation into the analysis. Rather than focusing solely on capital inflows, recent studies emphasize the importance of technological capability and digital infrastructure in shaping how economies absorb technological spillovers generated by FDI. In this perspective, digital competitiveness becomes an important explanatory mechanism that strengthens innovation capability, productivity enhancement, and sustainable economic growth.

The evolution illustrated in Table 3 also indicates increasing complexity and analytical depth within the literature over time. Earlier studies predominantly relied on linear econometric approaches focusing on the direct relationship between FDI and economic growth. In contrast, more recent studies increasingly adopt multidimensional and context-sensitive frameworks by integrating institutional, technological, environmental, and structural variables into the analysis. As a result, the literature demonstrates a shift not only in thematic orientation but also in methodological sophistication, reflecting the evolving dynamics of the contemporary global economy.

Collectively, the findings from Group A suggest that FDI alone does not automatically guarantee sustainable economic growth. Instead, its effectiveness depends heavily on structural readiness, institutional support, innovation systems, and broader contextual

conditions. These findings challenge the conventional linear interpretation of the FDI–growth nexus and reinforce the importance of adopting more integrated and capability-based frameworks to explain contemporary economic development.

**4.4 Integrated Role of Digital Competitiveness (Group B)**

Studies classified in Group B position digital competitiveness as a critical mechanism that strengthens the effectiveness of FDI in generating economic growth. Within this perspective, digital-related factors such as ICT development, digital infrastructure, technological readiness, innovation systems, and digital capability significantly influence the ability of economies to absorb and utilize technological spillovers generated by foreign investment.

Studies by Latif et al. (2018) and Nguyen et al. (2020) demonstrate that ICT development, digitalization, globalization, and innovation capability contribute significantly to productivity enhancement and economic modernization. These findings suggest that digital competitiveness strengthens absorptive capacity by enabling economies to more effectively transform external knowledge and technological spillovers into innovation and productivity gains.

The literature further indicates that digital competitiveness increasingly functions as a central explanatory mechanism within the FDI–growth nexus. Wang et al. (2022) show that ICT agglomeration and technological capability strengthen economic performance and technological integration. Similarly, Dai et al. (2025) emphasize that digital transformation and technological readiness improve the effectiveness of FDI by enhancing green productivity, innovation performance, and sustainability-oriented economic development.

More recent studies also highlight the role of digital transformation in supporting broader sustainability objectives. Nguyen et al. (2020) and J. Wang et al. (2022) demonstrate that digital capability and ICT development contribute not only to innovation and productivity enhancement but also to sustainable economic performance and competitiveness. Likewise, Murshed (2020) emphasizes that digitalization, trade openness, and renewable energy transition are increasingly interconnected within contemporary economic development processes.

A temporal mapping of the literature further reveals a significant conceptual evolution regarding the role of digital competitiveness. Earlier studies published between 2018 and 2019 generally position digitalization as a supporting factor influencing productivity and competitiveness. However, studies published between 2023 and 2026 increasingly position digital competitiveness as a central mechanism that shapes innovation capability, technological absorption, and long-term economic growth.

**Table 4.** Evolution of Digital Competitiveness within the FDI–Growth Nexus (2018–2026)

Period	Digital Perspective	Main Characteristics
2018–2019	ICT Supporting Factor	Digitalization treated primarily as a supporting variable influencing productivity and competitiveness
2020–2022	Digital Complementarity	Digital capability strengthens innovation, technological adoption, and globalization processes
2023–2026	Digital Competitiveness as Core Mechanism	Digital infrastructure, innovation ecosystems, fintech, and technological readiness become central drivers of economic growth

Table 4 illustrates the conceptual evolution of digital competitiveness within the foreign direct investment (FDI)–growth nexus from 2018 to 2026. The temporal mapping demonstrates that the role of digitalization in the literature has undergone a significant transformation over time, evolving from a peripheral supporting factor into a central explanatory mechanism in contemporary economic growth models.

During the 2018–2019 period, the literature primarily positioned digitalization as an ICT supporting factor. Studies published during this phase generally treated digital technologies and ICT development as complementary variables that indirectly supported productivity enhancement, competitiveness, and economic efficiency. The primary focus of the literature remained centered on the direct contribution of FDI to economic growth, while digitalization was considered a secondary element influencing economic performance. In this stage, ICT was mainly associated with improving communication efficiency, facilitating information exchange, and supporting industrial modernization processes.

The literature published between 2020 and 2022 demonstrates an important conceptual transition toward digital complementarity. During this period, studies increasingly recognized that digital capability plays a more strategic role in strengthening innovation, technological adoption, and globalization processes. Digitalization was no longer viewed merely as a supporting infrastructure, but increasingly as a mechanism that enhances the absorptive capacity of economies in utilizing technological spillovers generated by foreign investment. This shift reflects growing academic recognition that economies with stronger digital capability are generally more capable of integrating foreign technology, improving productivity, and accelerating innovation-driven growth.

The most recent phase, covering the period from 2023 to 2026, reflects the emergence of digital competitiveness as a core mechanism within the FDI–growth framework. The literature in this period increasingly positions digital infrastructure, innovation ecosystems, fintech development, artificial intelligence, and technological readiness as central drivers of economic growth and competitiveness. Rather than functioning solely as complementary factors, digital capabilities are now conceptualized as strategic determinants that shape how effectively economies absorb foreign investment and transform it into sustainable and innovation-oriented development outcomes.

This progression demonstrates a major conceptual transformation within the literature. The role of digital competitiveness evolves from a peripheral supporting variable into a multidimensional capability that fundamentally influences the effectiveness of FDI in generating economic growth. The findings suggest that economic growth in the digital era is increasingly determined not only by the amount of foreign investment entering an economy, but also by the ability of host countries to absorb, integrate, and utilize digital and technological resources effectively.

Overall, the analysis presented in Table 4 indicates that contemporary literature increasingly adopts integrated and capability-based development perspectives. Economic growth is no longer understood solely through traditional capital accumulation models, but rather through the interaction between foreign investment, digital transformation, innovation systems, and technological readiness. Consequently, digital competitiveness emerges as a central explanatory mechanism within the evolving FDI–growth nexus.

#### **4.5 Reinterpreting the FDI–Growth Nexus in the Digital Era**

The findings of this scoping review suggest that the traditional interpretation of foreign direct investment (FDI) as a direct and automatic driver of economic growth is no longer sufficient

to explain contemporary development dynamics. Earlier macroeconomic studies often positioned FDI as a mere external source of capital that expands economies linearly through investment inflows, industrial expansion, and employment generation.

However, the reviewed literature fundamentally challenges this conventional assumption. In practice, FDI operates as a conditional development instrument rather than a guaranteed catalyst. Its developmental impact depends heavily on the structural readiness of the host economy, where weak institutional structures, poor governance, and restricted local capabilities often confine foreign capital to narrow, extractive, or low-value-added sectors—potentially reinforcing foreign dependency rather than fostering domestic growth. Consequently, a critical implication for policymakers is a mandatory shift from generic investment attraction to quality-driven management. The qualitative nature of FDI—specifically its alignment with sustainability, technology transfer, and domestic productivity—matters far more than its sheer quantitative volume.

#### **4.6 Digital Competitiveness as an Enabling Mechanism**

One of the most important findings of this review is that digital competitiveness functions as an enabling mechanism in the relationship between FDI and economic growth. Digital competitiveness strengthens the ability of host economies to absorb technological spillovers, improve innovation capacity, and transform foreign investment into productivity gains. In this sense, digital competitiveness does not merely complement FDI; it determines whether FDI can generate meaningful and sustainable economic outcomes.

This interpretation shifts the analytical focus from external capital inflows to domestic absorptive capacity. An economy may receive large amounts of FDI, but without adequate ICT infrastructure, digital skills, technological readiness, and innovation systems, the benefits of foreign investment may remain limited. Conversely, economies with stronger digital capability are more likely to convert foreign investment into technological upgrading, industrial modernization, and productivity improvement. Therefore, digital competitiveness acts as a bridge between external investment and internal development capability.

Critically, this means that digital competitiveness should not be treated only as a technical or infrastructural variable. It is better understood as a multidimensional development capability that includes ICT infrastructure, digital literacy, innovation ecosystems, institutional support, and policy readiness. A country may have digital infrastructure, but if human capital, governance, and innovation systems are weak, digitalization may remain superficial and fail to strengthen the developmental impact of FDI. This is particularly relevant for developing economies, where digital transformation often occurs unevenly across regions, sectors, and firms.

#### **4.7 From Capital-Driven Growth to Capability-Based Development**

The reviewed literature indicates a broader conceptual shift from capital-driven growth toward capability-based development. In traditional growth models, economic development is often explained through capital accumulation and expansion of production capacity. However, the findings of this review show that growth in the digital era depends increasingly on the ability of economies to utilize knowledge, technology, innovation, and digital systems. This shift is theoretically significant because it changes the way FDI should be understood. FDI is no longer simply a source of external finance; it is also a channel through which technology, knowledge, managerial practices, and innovation may enter the host economy. However, these potential benefits are not automatically realized. They depend on whether domestic firms, institutions, and workers have the capability to absorb and apply external

knowledge. Therefore, the central question is not only whether FDI enters the economy, but whether the host economy is capable of converting FDI into technological learning and productivity gains.

From this perspective, digital competitiveness becomes a central explanatory factor in modern economic development. It determines whether foreign investment contributes to innovation-driven growth or merely reinforces dependence on imported technology and foreign firms. This finding supports a capability-based interpretation of development, where economic growth is shaped by the interaction between external resources and domestic technological capability. The contribution of this perspective is that it moves beyond the simplistic logic of “FDI causes growth” and instead asks “under what conditions does FDI generate growth?”

#### **4.8 Critical Reflection on Sustainability and Environmental Trade-Offs**

The findings also reveal a critical sustainability issue. FDI and digital transformation do not automatically lead to sustainable development. Several studies in the reviewed literature show that FDI may contribute to carbon emissions, environmental degradation, and increased energy consumption when foreign investment is concentrated in pollution-intensive or resource-intensive sectors. This is especially relevant for developing economies, where investment attraction policies often prioritize economic expansion over environmental protection.

This creates an important development dilemma. On the one hand, FDI can support industrialization, employment, infrastructure development, and productivity growth. On the other hand, if not regulated properly, it can intensify environmental pressure and lock economies into carbon-intensive development pathways. Therefore, the value of FDI should not be assessed only through GDP growth, capital inflows, or employment creation. It should also be evaluated based on its contribution to technological upgrading, environmental quality, green innovation, and long-term sustainability.

Digital competitiveness can help address this dilemma, but only under certain conditions. Digital technologies, ICT systems, and innovation capability can improve energy efficiency, support renewable energy transition, and strengthen green productivity. However, digitalization itself may also increase energy demand, widen inequality, and create new forms of technological dependency if not supported by inclusive and sustainability-oriented policies. Therefore, the relationship between FDI, digital competitiveness, and economic growth must be understood within a broader sustainability framework.

A sharper interpretation is that digital competitiveness should not merely be used to accelerate growth, but to improve the quality of growth. The central issue is not only whether digital technologies increase productivity, but whether they help economies move toward cleaner, more inclusive, and more innovation-driven development pathways. Without this orientation, digital competitiveness may simply make existing unsustainable growth models more efficient rather than transforming them.

#### **4.9 Theoretical Contribution**

This study contributes to the literature in three main ways. First, it extends the traditional FDI-growth literature by showing that FDI should not be analyzed only as a capital inflow. Instead, FDI should be understood as a potential channel of technology transfer, knowledge diffusion, innovation spillovers, and industrial upgrading. This helps explain why the impact of FDI varies across countries and why previous studies have produced mixed findings.

Second, this study contributes to the literature on digital competitiveness by positioning digital capability as an enabling mechanism within the FDI-growth nexus. Rather than

treating digital competitiveness as a separate factor influencing growth, this study shows that digital competitiveness shapes the effectiveness of FDI itself. In other words, digital capability determines whether foreign investment can be transformed into innovation, productivity, and sustainable development outcomes.

Third, this study contributes to development economics by supporting a capability-based framework. The findings suggest that economic growth depends not only on access to external resources, but also on the domestic capacity to use those resources productively. This perspective integrates insights from neoclassical growth theory, endogenous growth theory, technology spillover theory, and capability-based development approaches. The resulting framework offers a more comprehensive explanation of the FDI–growth relationship in the digital economy era.

The theoretical implication is that digital competitiveness can help resolve inconsistencies in the FDI–growth literature. Studies that find weak or insignificant effects of FDI may not necessarily contradict those finding positive effects. Instead, such differences may reflect variations in absorptive capacity, digital readiness, innovation capability, institutional quality, and structural conditions across countries. Thus, digital competitiveness provides an important explanatory lens for understanding why FDI produces different outcomes in different contexts.

#### **4.10 Practical and Policy Implications**

The findings have important implications for policymakers in developing economies. First, attracting FDI should not be treated as the final goal of development policy. Governments should focus on attracting high-quality FDI that supports technology transfer, innovation, productivity improvement, and sustainable development. This requires selective investment policy, stronger institutional quality, transparent governance, and effective regulatory frameworks.

Second, investment policy should be integrated with digital transformation policy. Countries need to strengthen digital infrastructure, expand ICT access, improve digital literacy, support research and development, and develop innovation ecosystems. Without these capabilities, FDI may generate only limited spillovers and may fail to produce broad-based economic transformation.

Third, human capital development should be central to FDI and digital competitiveness strategies. Technology transfer cannot occur effectively if the domestic workforce lacks the skills needed to absorb and apply foreign technology. Therefore, education, vocational training, digital skills development, and innovation-oriented learning systems should be treated as core components of investment policy.

Fourth, sustainability should be embedded into FDI policy. Governments should encourage foreign investment in technology-intensive, innovation-driven, and environmentally responsible sectors. At the same time, they should discourage investment that increases carbon dependency or environmental degradation. Green innovation, renewable energy, digital-enabled efficiency, and sustainability reporting should become integral parts of future FDI strategies.

Finally, developing economies should avoid the trap of passive FDI dependence. Relying solely on foreign capital without building domestic capability may produce short-term growth but limited long-term transformation. The more strategic approach is to use FDI as a catalyst for domestic capability building, technological upgrading, and digital transformation. In this

sense, the main policy challenge is not simply how to attract more FDI, but how to convert FDI into sustainable, inclusive, and innovation-driven economic growth.

#### **4.11 Critical Synthesis**

Synthesizing these insights, this study constructs an integrated framework where the relationship between FDI, digital competitiveness, and economic growth is redefined as a capability-based development process. While the reinterpretation of the FDI-growth nexus establishes that foreign capital requires host-country absorptive capacity to be effective, this synthesis identifies digital competitiveness as the primary technological engine of that capacity.

Digital competitiveness does not merely run parallel to economic growth; it actively modernizes the host economy's absorptive infrastructure. Strong digital readiness, robust national innovation systems, and a digitally skilled workforce serve as the critical mechanisms required to decode, domesticate, and multiply foreign technological spillovers. Without this digital framework, internal markets cannot fully utilize complex international knowledge inflows. Therefore, this study reframes the triad dynamic: FDI provides the external technological catalyst, digital competitiveness provides the internal absorptive apparatus, and sustainable economic transformation is the structural outcome. Future research and policy must pivot away from evaluating FDI inflows in isolation, focusing instead on the systemic conditions under which digital transformation and foreign investment mutually reinforce long-term economic resilience.

#### **5. Conclusion and Suggestion**

This study systematically reviewed the literature concerning the relationship between foreign direct investment (FDI), digital competitiveness, and economic growth in developing and emerging economies. The findings demonstrate that the traditional understanding of FDI as a direct and automatic driver of economic growth is increasingly insufficient to explain contemporary economic development dynamics. While earlier studies predominantly emphasized the role of FDI in capital accumulation, industrial expansion, and productivity enhancement, more recent studies increasingly highlight the importance of digital competitiveness, technological capability, innovation systems, and absorptive capacity in determining the effectiveness of foreign investment.

The review further reveals that digital competitiveness has evolved from a supporting factor into a central explanatory mechanism within the FDI-growth nexus. Economies with stronger ICT infrastructure, digital capability, innovation ecosystems, and technological readiness are generally more capable of absorbing technological spillovers generated by FDI and transforming them into productivity gains, innovation performance, and sustainable economic growth. Consequently, the effectiveness of FDI is increasingly understood as conditional, context-dependent, and strongly influenced by the structural readiness of host economies.

Another important finding is that the relationship between FDI and economic growth cannot be separated from sustainability considerations. Several studies indicate that FDI may contribute to environmental degradation and carbon emissions when not supported by effective regulation, green innovation, and sustainability-oriented policies. At the same time, digital transformation and technological innovation may support renewable energy transition, green productivity, and sustainable economic modernization. These findings indicate that economic growth in the digital era is shaped not only by foreign investment inflows but also

by the interaction between technological capability, institutional quality, innovation systems, and sustainability-oriented development strategies.

The study also identifies a significant conceptual transition within the literature from traditional capital-driven growth models toward integrated capability-based development frameworks. In this evolving perspective, economic growth depends not merely on the availability of external capital but on the ability of economies to absorb, utilize, and transform foreign investment into long-term innovation and productivity enhancement. Therefore, digital competitiveness emerges as a strategic capability that strengthens the developmental impact of FDI.

Based on these findings, several practical implications can be highlighted. Governments in developing and emerging economies should not focus solely on attracting foreign investment but also on strengthening domestic digital capability, technological readiness, and innovation systems. Investment policy should be integrated with digital transformation policy, human capital development, and sustainability-oriented economic strategies. In addition, policymakers should encourage high-quality and technology-intensive FDI that supports knowledge transfer, green innovation, and long-term economic competitiveness.

Overall, this study concludes that the relationship between FDI, digital competitiveness, and economic growth is multidimensional and increasingly shaped by digital transformation processes. The findings reinforce the importance of adopting integrated, capability-based, and sustainability-oriented approaches in understanding contemporary economic development.

## **6. Limitations and Future Research**

Despite providing important insights into the relationship between FDI, digital competitiveness, and economic growth, this study has several limitations that should be acknowledged.

First, this study adopts a scoping review approach, which focuses primarily on mapping and synthesizing existing literature rather than statistically testing causal relationships among variables. As a result, the findings are conceptual and interpretive in nature and do not provide direct empirical verification regarding the magnitude or direction of the relationships identified in the reviewed studies.

Second, the study relies on selected journal articles included within the review criteria and database selection process. Although the selected studies provide substantial coverage of the literature, the possibility remains that relevant studies published outside the selected databases, languages, or indexing systems were not included. Therefore, the findings may not fully represent the entire body of global literature concerning FDI, digital competitiveness, and economic growth.

Third, the reviewed studies exhibit substantial variation in terms of geographical focus, methodological approaches, indicators, and conceptual definitions. Differences in institutional context, digital readiness, economic structure, and measurement variables across countries may influence the consistency of findings. Consequently, caution should be exercised when generalizing the conclusions across different economic contexts.

Fourth, the literature concerning digital competitiveness and FDI remains relatively dynamic and continuously evolving. Rapid developments in artificial intelligence, fintech, digital trade, platform economies, and technological innovation may reshape the relationship between FDI and economic growth in ways that are not yet fully captured by the current literature.

Therefore, the conceptual framework presented in this study should be understood as evolving rather than definitive.

Fifth, the article screening and thematic classification decisions were conducted primarily by a single reviewer without a formal inter-rater reliability (IRR) assessment. Although rigorous measures such as iterative coding and multi-stage cross-referencing against inclusion criteria were implemented to minimize bias, the reliance on a single evaluator may introduce a degree of researcher subjectivity into the classification outcomes.

Sixth, tracking citation counts to identify influential studies introduces a potential high-citation bias. Older publications naturally possess a mathematical advantage in accumulating citations compared to recently published papers. Consequently, overemphasizing citation metrics could risk underrepresenting cutting-edge research from the 2024–2026 window. To mitigate this limitation, the core screening protocol remained strictly relevance-based, assessing the conceptual alignment of every paper regardless of its citation metric.

Based on these limitations, several directions for future research can be proposed. Future studies may employ empirical and quantitative approaches to test the mediating or moderating role of digital competitiveness within the FDI–growth relationship. Comparative cross-country studies could also provide deeper insights into how institutional quality, technological readiness, and innovation systems influence the effectiveness of FDI in different regional contexts.

Further research may also explore the role of emerging digital technologies such as artificial intelligence, fintech ecosystems, digital platforms, and smart manufacturing in shaping future economic growth dynamics. In addition, future studies should pay greater attention to sustainability-oriented development by examining how green innovation, renewable energy transition, and digital transformation interact with FDI in supporting inclusive and sustainable economic growth.

Finally, future research may develop more integrated theoretical and empirical frameworks that combine digital competitiveness, innovation capability, institutional quality, sustainability, and technological transformation within the broader context of global economic restructuring. Such approaches would contribute to a deeper understanding of how economies can effectively transform foreign investment into long-term, innovation-driven, and sustainable development outcomes.

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