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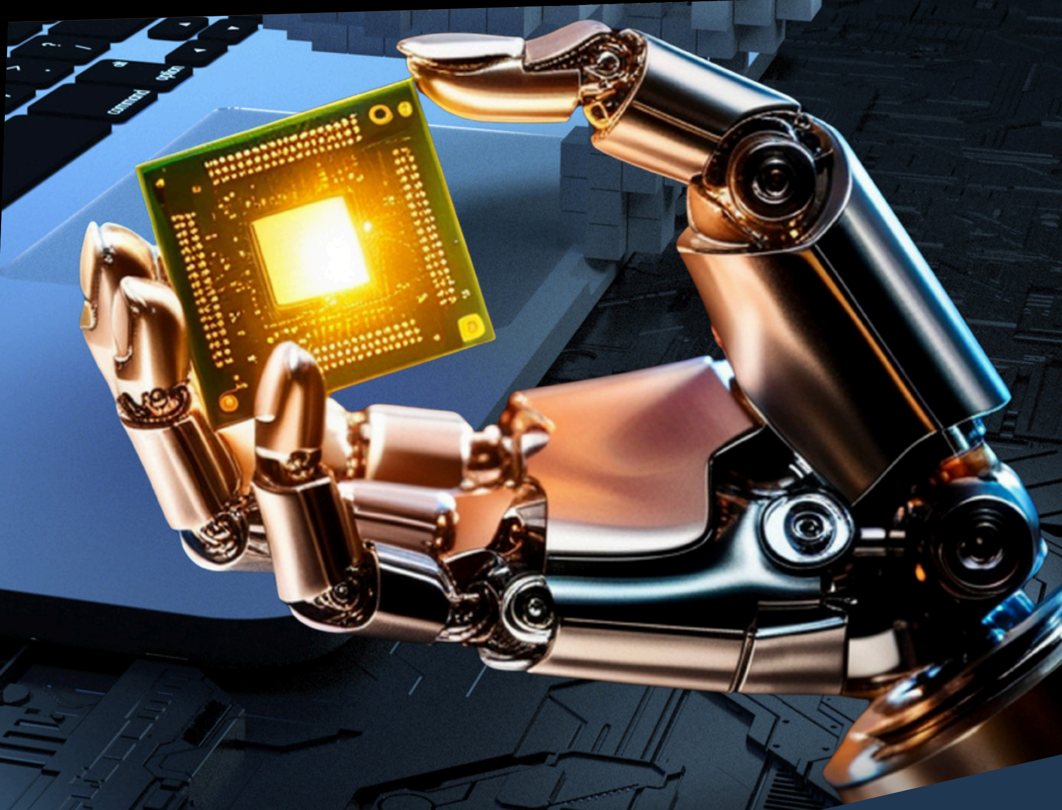
FBM Insights

FACULTY OF BUSINESS AND MANAGEMENT
UNIVERSITI TEKNOLOGI MARA, CAWANGAN KEDAH

2026
VOLUME 13



e-ISSN 2716-599X

FBM INSIGHTS

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e-ISSN 2716-599X

The editorial board would like to express their heartfelt appreciation for the contributions made by the authors, co-authors and all who were involved in the publication of this bulletin.

Published by : Faculty of Business and Management,
Universiti Teknologi MARA Cawangan Kedah

Published date : 17 May 2026

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DIGITALISATION AND ECONOMIC GROWTH: INSIGHTS FROM ENDOGENOUS GROWTH THEORY

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ABSTRACT

This article explores the role of government digitalisation in promoting economic growth through the scope of Endogenous Growth Theory. This theory states that digital governance strengthens long-run growth by enhancing productivity, improving innovation incentives, and facilitating knowledge spillovers. Unlike neoclassical models that treat technological change as exogenous, endogenous growth frameworks emphasise internal drivers shaped by policy and institutional quality. Therefore, this article highlights the deployment of digitalisation as a strategic public input that supports sustained economic development, particularly in developing economies.

Keywords: Government digitalisation; Endogenous Growth Theory; Economic growth

INTRODUCTION

Digitalisation has become a defining feature of contemporary economic development. Globally, government authorities are adopting digital technologies on a greater scale with the aim of enhancing the delivery of public service, improving the efficiency of administration, and strengthening the capacity of institutions. While the operational benefits of digital government are widely acknowledged, its broader macroeconomic implications deserve closer theoretical attention. From the perspective of economic growth, government digitalisation can influence long-run economic performance by shaping productivity dynamics, innovation incentives, and knowledge diffusion. Recent studies indicate that these effects are particularly relevant for developing economies (Lee & Park, 2025; UNDP, 2023; World Bank, 2021).

Endogenous Growth Theory provides a useful framework for understanding these dynamics. Whereas technological change is treated as exogenous in models of neoclassical growth, internal driving factors like innovation, the accumulation of human capital, and knowledge spillover are emphasised in models of endogenous growth. Within this framework, policy choices and institutional quality directly affect long-term growth paths. Therefore, government digitalisation can be viewed as a growth-enhancing public input that strengthens the environment in which productivity and innovation progress (Arcos-Guanga et al., 2024; Khan et al., 2024).

GROWTH MECHANISMS OF GOVERNMENT DIGITALISATION

Productivity Enhancement

One key mechanism linking digitalisation to economic growth is productivity enhancement. Digital government initiatives reduce transaction costs by streamlining administrative procedures, improving coordination across public agencies, and increasing the speed and reliability of public service delivery. Empirical evidence shows that digital transformation enhances firm-level efficiency and overall productivity by lowering administrative burdens and improving resource allocation (Lee & Park, 2025). Referring to endogenous growth models, such productivity improvements contribute not only to short-term economic performance but also to sustained growth by strengthening the economy's productive capacity.

Innovation Incentives

A second mechanism operates through innovation incentives. Digitalised public institutions promote transparency, regulatory clarity, and access to data, thereby reducing the uncertainty faced by firms and investors. Recent studies suggest that the adoption of digital technology is positively associated with higher research and development activity, technological upgrading, and innovation-led growth, particularly in Asia-Pacific economies (He, 2025; Khan et al., 2024; Ziqi, 2024). Endogenous growth theory emphasises that innovation responds to incentives and institutional conditions rather than occurring randomly. By improving governance effectiveness and reducing information asymmetries, government digitalisation strengthens incentives for continuous innovation.

Knowledge Spillovers

A third mechanism relates to knowledge spillover. In endogenous growth models, knowledge is partially non-rival, meaning that ideas generated by one economic agent can benefit others without being depleted. Digital platforms, open data initiatives, and e-government systems facilitate the dissemination of information, best practices, and technological knowledge across firms, sectors, and regions. Recent research confirms that knowledge spillover plays a significant role in enhancing innovation capacity and sustaining economic growth, especially in digitally connected and innovation-driven economies (Arcos-Guanga et al., 2024; UNDP, 2023; Ziqi, 2024).

These mechanisms are particularly relevant for developing economies, including Malaysia, where digital transformation has become a strategic policy priority. In Malaysia, various official initiatives have been launched with the aim of accelerating digital governance and economic modernisation. These include the Malaysia Digital Economy Blueprint (MyDIGITAL) and the Malaysia Digital schemes, targeting stronger digital infrastructure, expanded e-government services, and the promotion of growth driven by innovation (Economic Planning Unit, 2021; Malaysia Digital Economy Corporation, 2022). Platforms such as the MyGovernment portal provide integrated digital services that improve accessibility and efficiency for citizens and businesses (MAMPU, 2023). Moreover, empirical studies suggest that government support for digital industries can stimulate productivity, innovation, and job creation in Malaysia's digital sector (Kam et al., 2025).

CHALLENGES AND CONSIDERATIONS

Whereas digitalisation may bring advantages, it also involves various difficulties that must be addressed carefully through policy. The digital divide is a key challenge: a particular group or region might not be able to gain the benefits of digital transformation due to the inequality with which digital skills, infrastructure, and connectivity can be accessed (Organisation for Economic Co-operation and Development [OECD], 2021; United Nations Development Programme [UNDP], 2023). In addition, increased reliance on digital systems raises cybersecurity and data protection risks, which may affect public trust in digital government platforms and digital public services (World Bank, 2021). Addressing these challenges requires complementary policies such as expanding digital infrastructure, strengthening cybersecurity frameworks, and improving digital literacy. By mitigating these risks, governments can ensure that digitalisation contributes to inclusive and sustainable economic growth (OECD, 2021; UNDP, 2023).

CONCLUSION

Based on the perspective of Endogenous Growth Theory, government digitalisation plays a meaningful role in stimulating long-run economic growth. By enhancing productivity, encouraging innovation, and facilitating knowledge spillover, digital governance strengthens the internal engines of sustained economic development. Importantly, the benefits of digitalisation accumulate over time, implying that it should be viewed as a long-term growth strategy rather than a short-term administrative reform. For developing economies, digitalisation represents more than technological modernisation; it is also a strategic policy instrument that shapes the conditions for persistent growth in an increasingly knowledge-driven global economy (Arcos-Guanga et al., 2024; He, 2025; Khan et al., 2024).

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