International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

INTERNATIONAL JOURNAL OF MODERN EDUCATION (IJMOE)
www.ijmoe.com

GLOBAL ACADEMIC EXCELLENCE

DIGITAL EDUCATION IN MALAYSIAN PUBLIC UNIVERSITIES: A NEO-INSTITUTIONAL PERSPECTIVE ON POLICY IMPLEMENTATION

Nur Badariah Baharuddin[1*], Nur Hairani Abd Rahman [2], Nurul Liyana Mohd Kamil [3]

[1] Department of Political Science, Public Administration and Development Studies, Universiti Malaya, Malaysia
Email: badriyah2012@gmail.com
[2] Department of Political Science, Public Administration and Development Studies, Universiti Malaya, Malaysia
Email: nurhairani@um.edu.my
[3] Department of Political Science, Public Administration and Development Studies, Universiti Malaya, Malaysia
Email: nurulliyana@um.edu.my
[*] Corresponding Author

Article Info:

Article history:
Received date: 30.07.2025
Revised date: 17.08.2025
Accepted date: 03.09.2025
Published date: 15.10.2025

To cite this document:

Baharuddin, N. B., Abd Rahman, N. H., & Kamil, N. L. M. (2025). Digital Education in Malaysian Public Universities: A Neo-Institutional Perspective on Policy Implementation. *International Journal of Modern Education, 7* (27), 571-588.

DOI: 10.35631/IJMOE.727035

Abstract:

The integration of digital education has emerged as a cornerstone of contemporary teaching and learning in higher education. The rapid advancement of technology underscores the need for comprehensive institutional policies to facilitate its effective implementation. Governments play a crucial role in ensuring equitable access to digital education while enabling public universities to manage and delegate operational responsibilities among key stakeholders, including university administrators, academics, and students. This study investigates the implementation of digital education policies in Malaysian public universities, analyzing the interactions between the Ministry of Higher Education, university management, academic staff, and students. Grounded in neo-institutional theory, the research employs a qualitative methodology, drawing on data from semi-structured interviews and document analysis. The findings illuminate the structural and cultural dynamics that shape policy implementation, offering insights into best practices and strategies to address barriers in the adoption of digital education. This study provides practical recommendations for policymakers and university leaders, contributing to the development of a sustainable, inclusive, and resilient digital education ecosystem in higher education.

Keywords:

Digital Education, Policy Implementation, Public Universities, Higher Education, Neo-Institutional Theory

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

Introduction

The integration of digital education into higher education systems has fundamentally transformed the modes of knowledge delivery and access, heralding a new era of educational engagement. However, this paradigm shift presents complex challenges, particularly in policy formulation, implementation, and stakeholder coordination. Governments and educational institutions must navigate competing stakeholder interests, resource constraints, and the evolving landscape of technological innovation. In Malaysian public universities, these challenges are compounded by diverse stakeholder expectations—ranging from policymakers and university administrators to academic staff and students—within a policy environment that requires strategic and adaptive approaches.

Neo-institutional theory offers a well-suited framework for analyzing these dynamics, focusing on the role of institutional structures, norms, and isomorphic pressures in shaping organizational behavior and policy implementation. This theoretical lens highlights how coercive regulations, normative expectations, and mimetic practices influence the adoption and operationalization of digital education initiatives while also revealing constraints that hinder innovation and adaptation. Prior research demonstrates how these institutional characteristics—coercive, normative, and mimetic forces—impact the integration of educational technologies (Bokolo, 2021). Broader theoretical insights on policy implementation also emphasize the importance of organizational decision-making processes and stakeholder engagement in achieving sustainable outcomes (Csizmadia et al., 2008).

This study critically examines the implementation of digital education policies in Malaysian public universities through the perspective of neo-institutional theory. Drawing on qualitative methods, including semi-structured interviews and document analysis, the research investigates how these policies are enacted, negotiated, and adapted. By identifying structural and cultural factors that either facilitate or impede policy implementation, the findings integrate theoretical and practical insights, offering actionable recommendations for policymakers and educational leaders to establish a sustainable and inclusive digital education ecosystem.

The transformation of higher education through digital integration has accelerated significantly in recent years, driven by technological advancements and the disruptions caused by the COVID-19 pandemic. Within Malaysian public universities, digital education has become a cornerstone for fostering an inclusive, efficient, and adaptive educational environment. This shift addresses the needs of diverse stakeholders while contending with resource limitations and evolving technological demands. Neo-institutional theory provides valuable insights into the interplay of institutional pressures, cultural norms, and stakeholder dynamics, offering a framework for understanding the complexities of policy enactment and adaptation amidst often conflicting interests.

Globally, research highlights challenges in integrating digital tools into traditional educational models, including structural barriers, disparities in digital literacy, and institutional resistance to change (Røe et al., 2022). Strategic leadership and policy coherence are emphasized as critical for addressing these challenges and fostering sustainable digital transformation (Butt et al., 2023). Effective implementation requires comprehensive strategies addressing organizational, pedagogical, and technological dimensions (Stranger et al., 2023). The Malaysian context reflects these global challenges while presenting unique issues, such as aligning policies with national education objectives and ensuring equitable access to digital

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035
education for students from diverse socio-economic backgrounds. By situating the Malaysian experience within a broader theoretical framework, this study enhances understanding of how institutional frameworks can optimize digital education, providing actionable recommendations for improving governance and fostering sustainable and inclusive digital education initiatives.

Literature Review

The global shift toward digital education has exposed substantial challenges in its integration into higher education systems. Røe et al. (2022) identify infrastructural deficits and technological disparities as persistent barriers in low- and middle-income countries, where access to stable internet and digital tools is not universally available. These studies also argue that digital education initiatives often fail to account for the socio-economic divides that exacerbate inequalities in access and learning outcomes. While these structural issues are common, there is limited exploration of how policy frameworks adapt to these challenges across diverse cultural and economic contexts.

In contrast, studies in Europe and North America emphasize the role of strategic governance and leadership in navigating these challenges (Butt et al., 2023). For instance, well-funded higher education systems in Scandinavia have achieved significant progress in digital education by ensuring equitable access and integrating technology into pedagogical practices (Olofsson & Lindberg, 2021). However, even in these contexts, institutional resistance and gaps in digital literacy among educators remain notable obstacles. This underscores that beyond resource availability, institutional culture and staff readiness play a crucial role in determining the success of digital education policies.

Moreover, evidence from developing regions, such as South Asia and Sub-Saharan Africa, highlights the interplay between socio-economic disparities and digital infrastructure limitations (Stranger et al., 2023). While these regions have leveraged mobile technologies to expand access to education, challenges such as a lack of teacher training and inconsistent policy implementation continue to hinder progress. These findings point to the need for a holistic approach to digital education policy—one that integrates organizational, pedagogical, and technological dimensions while addressing systemic inequalities.

Neo-Institutional Theory as a Framework

Neo-institutional theory offers a robust lens for analyzing the dynamics of digital education policy implementation. The theory emphasizes how institutional structures and external pressures shape organizational behavior through coercive, mimetic, and normative mechanisms (DiMaggio & Powell, 1983). For example, coercive pressures, such as government mandates and funding requirements, often drive universities to adopt digital tools even when institutional readiness is lacking. Bokolo (2021) demonstrates this in the context of Chinese universities, where centralized policies have accelerated the adoption of digital education technologies but also revealed challenges in localized implementation.

Mimetic pressures emerge as universities strive to emulate successful models to bolster their competitiveness and maintain relevance in the global education landscape (DiMaggio & Powell, 1983). Institutions frequently draw inspiration from the strategies of leading universities, adopting digital tools and methodologies that have demonstrated effectiveness in other contexts (Strielkowski et al., 2022). This approach is particularly evident in the strategic

International Journal of Modern Education
EISSN: 2637-0905
IJMOE
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

management of digital education, where long-term plans often integrate best practices from globally recognized institutions to ensure competitiveness in an increasingly interconnected education market (Stukalina, 2020). While this emulation can accelerate innovation and provide valuable frameworks for transformation, it risks overlooking the unique needs and resource constraints of local contexts.

Similarly, normative pressures, rooted in professional standards and academic networks, exert significant influence on institutional behavior. In Europe, for instance, digital education policies frequently align with international benchmarks such as the Bologna Process, which emphasizes harmonization and comparability across higher education systems (Anafinova, 2024; Reinalda & Kulesza, 2006). While this alignment fosters standardization and facilitates collaboration across borders, it may inadvertently limit the flexibility required to address the diverse challenges faced by individual institutions. Balancing global influences with localized needs remains a critical challenge for universities navigating digital transformation.

The application of neo-institutional theory also reveals the constraints imposed by institutional inertia and cultural norms. For instance, normative resistance among academic staff to adopting new technologies often stems from concerns over workload increases and reduced autonomy (Csizmadia et al., 2008). These insights highlight the importance of not only examining external pressures but also addressing internal organizational dynamics to foster a culture of innovation. This study builds on these theoretical perspectives to explore how such dynamics play out in the Malaysian context.

Comparative Analysis of Regional Approaches

Comparative studies reveal significant variations in how countries approach the integration of digital education, shaped by their socio-economic, cultural, and institutional contexts. Scandinavian nations, for example, are frequently cited as leaders in digital education due to their emphasis on equity, robust funding, and policy coherence (Røe et al., 2022). Their approach demonstrates the importance of aligning national strategies with institutional capacities, fostering innovation through collaboration between government and universities.

In contrast, countries in South Asia face systemic challenges that hinder the scalability of digital education initiatives. Several studies highlight how infrastructure deficits, such as unreliable internet connectivity and inadequate teacher training, limit the effectiveness of digital education in India (Chakraborty, 2023; Dhaygude et al., 2022; Dervishi & Vrapi, 2022). These issues are further compounded by the absence of cohesive policy frameworks, leading to fragmented implementation across institutions. This stands in stark contrast to East Asia, where countries like South Korea have leveraged centralized policies to achieve rapid advancements in digital education infrastructure and practices.

The Malaysian context presents a hybrid model that combines top-down government directives with decentralized implementation by universities. Lee (2015) argues that while this approach allows for flexibility, it also leads to significant disparities in outcomes due to resource imbalances and differing stakeholder priorities. These findings underscore the need for tailored strategies that address both national education objectives and the unique challenges faced by individual institutions. By drawing on insights from regional comparisons, this study seeks to identify actionable strategies for optimizing digital education governance in Malaysia.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

Interplay of Factors in Digital Education Adoption

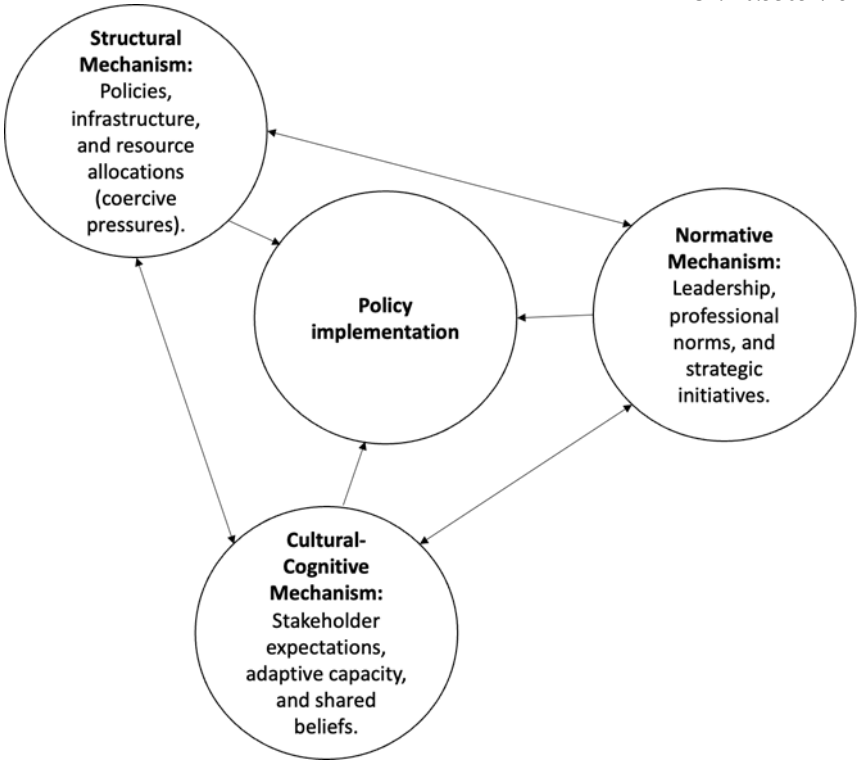
The literature reveals a multifaceted interaction between institutional structures, external pressures, and cultural dynamics in shaping the integration of digital education policies. These interactions are influenced by factors such as government mandates, professional norms, and shared beliefs, all of which play significant roles in policy adoption and implementation. Structural factors, including infrastructure investments and policy enforcement, act as essential drivers in this process. These elements are often shaped by centralized directives, such as those observed in Malaysian and East Asian contexts (Bokolo, 2021). However, disparities in resource allocation and institutional readiness frequently limit the efficacy of these efforts, creating a gap between national objectives and local capacities.

Normative mechanisms, such as professional norms, leadership initiatives, and collaborative strategies, contribute to fostering alignment with global benchmarks and encouraging innovation. Studies from Europe and North America (Butt et al., 2023) illustrate how these normative pressures, which emphasize shared expectations, are instrumental in advancing digital education. Nevertheless, challenges such as resistance from staff and gaps in digital literacy persist, underscoring the need for a supportive institutional culture that nurtures readiness for change and the adoption of new technologies.

Cultural-cognitive mechanisms emphasize the importance of shared beliefs, stakeholder expectations, and adaptive capacity, shaping how institutions and individuals respond to technological advancements. These mechanisms are shaped by socio-economic and institutional contexts, making it vital to align digital education policies with local realities. Comparative studies from regions like Scandinavia, East Asia, and South Asia (Brown & Gilbert, 2024) demonstrate how varying socio-economic conditions and institutional capacities necessitate tailored approaches to address systemic inequalities and ensure policy effectiveness (Ghosh, 2013).

This interplay of structural, normative, and cultural-cognitive factors is crucial for understanding the Malaysian context, where centralized directives are balanced with decentralized institutional practices. The following illustration (Figure 1) encapsulates these dynamics, offering a visual summary of how these elements interact in the adoption and implementation of digital education policies.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035



Methods

The methodological framework of this study is designed to investigate the implementation of digital education policies in Malaysian public universities, utilizing a neo-institutional theoretical framework. This approach provides a foundation for examining how structural, cultural, and stakeholder dynamics influence the adoption and operationalization of policies. By employing qualitative methods, the study captures the complexities of institutional processes, stakeholder interactions, and contextual pressures, enabling a deeper understanding of policy outcomes and challenges.

Participant Selection and Context

Data were collected from a diverse group of stakeholders, including directors from the Ministry of Higher Education (MOHE), members of the DePAN 2.0 policy community (DePAN, short for Dasar e-Pembelajaran Negara, or the National e-Learning Policy), as well as representatives from university management, professional staff, academicians, and students. The selection of participants across these roles ensures the inclusion of multiple perspectives on policy implementation and its practical implications. Four institutions—Universiti Malaya (UM), International Islamic University Malaysia (IIUM), University Technology Mara (UiTM), and Universiti Pendidikan Sultan Idris (UPSI)—were purposively chosen for their unique roles in Malaysia's higher education system. This purposive sampling strategy aligns with the study's aim to explore institutional diversity and the contextual factors shaping policy enactment. These institutions represent a spectrum of educational mandates, from research-intensive universities to those with a focus on teacher education and public outreach, providing a comprehensive view of the policy landscape.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

Data Analysis

The study employs qualitative methods, specifically semi-structured interviews and document analysis, to gain contextualized insights into the implementation of digital education policies. Semi-structured interviews enable an in-depth exploration of participants' experiences and perspectives while providing the flexibility to adapt to emerging themes during data collection (Savenye & Robinson, 2005). Complementing this, document analysis offers a comprehensive understanding of institutional processes and policy frameworks, facilitating a triangulated perspective on the research problem (Kelly-Jackson, 2018).

Data analysis is conducted using thematic analysis, an iterative process that involves coding, categorizing, and refining data to identify recurring patterns and themes. This approach ensures alignment with neo-institutional theory, which serves as a guiding framework to interpret the findings through the lens of institutional pressures and cultural dynamics. The systematic use of NVivo software supports the organization and management of qualitative data, enhancing the consistency and reliability of the analytical process (AlYahmady & Alabri, 2013).

To ensure the trustworthiness of the findings, the study incorporates triangulation, peer debriefing, and member checks (Raskind et al., 2018). These measures enhance the credibility and accuracy of the interpretations, ensuring that the results reflect participants' perspectives. The integration of qualitative software further strengthens the analysis by providing systematic tools for coding and visualization, contributing to a comprehensive and reliable examination of the data.

Ethical Considerations

Ethical considerations are central to this study, ensuring that research practices uphold participants' rights and data integrity. Participants were informed of their rights to anonymity, confidentiality, and voluntary participation, with informed consent obtained before data collection. Special attention was given to the digital context of the study, incorporating measures to safeguard digital traces and ensure compliance with privacy guidelines (Hakimi et al., 2021). To address emergent ethical challenges, reflexivity and ongoing ethical deliberations were embedded throughout the research process (Newman et al., 2021). The study received ethical approval from the Universiti Malaya Research Ethics Committee, reinforcing adherence to institutional and international ethical standards. This approval underscores the study's commitment to safeguarding participants' rights and ensuring the integrity of the research process.

Findings

> *"The COVID-19 pandemic prompted a paradigm shift in education, accelerating the transition to online learning and challenging the traditional reliance on face-to-face instruction. While initially met with skepticism, digital platforms quickly became indispensable for educators striving to maintain learning continuity and foster student engagement. This transition revealed divergent preferences among stakeholders: some embraced the flexibility and accessibility of online learning, which enabled education from any location, whereas others expressed a continued preference for in-person instruction. Moving forward, ensuring continuous learning across varied instructional modalities remains a priority. Educators must adapt to advancing technologies, address diverse learning styles, and uphold high standards of educational quality and accessibility in an ever-evolving educational landscape". – DePAN_PolicyMaker*

International Journal of Modern Education
EISSN: 2637-0905
IJMOE
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

This shift to online education, as emphasized by the DePAN_PolicyMaker, has underscored the critical importance of strengthening digital education systems in higher education. The integration of digital education in public universities has emerged as a transformative initiative, with findings underscoring its dependence on several critical factors. First, the availability and alignment of infrastructure and policy support play an essential role in facilitating seamless digital education. Connectivity, in particular, has emerged as a fundamental requirement, serving as the backbone for online learning and ensuring equitable access for students and educators. This necessity became especially evident during the pandemic, highlighting the pressing need for robust digital ecosystems.

Strategic initiatives have also been identified as pivotal in advancing digital education within higher education institutions. Efforts such as the development of AI faculties, gamification strategies, and mobile-ready e-learning platforms exemplify how proactive measures can drive innovation and foster engagement. However, these initiatives require careful alignment with institutional capacities and stakeholder needs to achieve long-term success.

Despite these advancements, significant challenges persist. One of the most prominent barriers lies in upgrading existing systems, which often disrupt established workflows and create resistance among faculty and students. These challenges underscore the importance of user-centered approaches and robust change management strategies to ensure sustainable integration of digital education technologies.

Collectively, these findings illustrate the multifaceted nature of digital education and the complexities involved in its effective implementation within higher education institutions. As the educational landscape continues to evolve, the emphasis must remain on strengthening digital education by addressing infrastructural gaps, fostering innovation, and adapting to the diverse needs of stakeholders.

Infrastructure and Policy Support for Digital Education

The successful implementation of digital education in Malaysian public universities is intrinsically tied to the alignment of ICT infrastructure and supportive policy frameworks, as interpreted through the lens of neo-institutional theory. This perspective reveals how institutional structures and external pressures—such as government mandates and budgetary constraints—shape universities' responses to the growing demands of digital transformation. Informants underscored the considerable financial and logistical investments required to establish and sustain the digital ecosystem necessary for teaching and learning. Critical components, including high-speed internet, robust digital platforms, and technical support systems, were identified as indispensable. However, significant disparities in resource allocation across institutions, particularly those in rural areas, highlight the systemic inequities that perpetuate an uneven digital education landscape. This disparity raises questions about the ability of smaller universities to meet digital education objectives under the current policy and resource frameworks.

Efforts to address these challenges are guided by phased targets for infrastructure and infostructure development, as outlined in Table 1. These phases, defined under national education initiatives, provide a roadmap for universities to progressively enhance their ICT capacity:

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

Table 1. Infrastructure and Infostructure Development Targets by Phases

Domain	Focus Area	Phase 1 (2015)	Phase 2 (2016–2020)	Phase 3 (2021–2025)
Infrastructure & Infostructure	Internet & Wi-Fi Coverage	1–5 Gbps Internet Access (streaming of SD videos)	6–10 Gbps Internet Access (streaming of HD videos)	Minimum 10 Gbps Internet access (streaming of full HD videos, tele-presence)
		1 Mbps/student and 80% coverage	2 Mbps/student and 90% coverage	2.5 Mbps/student and 100% coverage
	eLearning Platform	eLearning platform 2.0 and MOOC-ready	eLearning platform 2.0 MOOC- and mobile ready	eLearning platform 2.0MOOC-, mobile- and learning analytic ready
	ICT Equipment and Software	100% of lecturers and 90% of students have computer / notebook / tablet / smartphone	100% of lecturers and 95% of students have computer / notebook / tablet / smartphone	100% of lecturers and 100% of students have computer / notebook / tablet / smartphone
		50% of lecturers have access to e-content development software	75% of lecturers have access to e-content development software	100% of lecturers have access to e-content development software

(Ministry of Higher Education Malaysia, 2011)

The phased approach in Table 1 illustrates how national objectives have been operationalized to progressively address the infrastructure needs of digital education. However, the findings reveal that while these centralized targets provide a framework for development, their implementation is often uneven across institutions. This is particularly evident in rural universities, where resource constraints hinder the achievement of these benchmarks.

A critical analysis of these findings underscores the coercive pressures exerted by policy directives such as DePAN 2.0, which play a central role in promoting digital education initiatives. While these policies are pivotal in setting national benchmarks, their effectiveness is often undermined by fragmented implementation and a lack of alignment between institutional and national priorities. This misalignment reflects the challenges of institutional isomorphism, wherein under-resourced universities struggle to emulate the practices of well-funded counterparts, often adopting surface-level compliance rather than achieving substantive integration.

International Journal of Modern Education
EISSN: 2637-0905
IJMOE
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

The financial burden associated with these initiatives was particularly emphasized by MOHE_Director01, who noted:

> *"Wi-Fi and also some system information upgrades and ICT infrastructure. It has to, because even Wi-Fi costs a lot since it's in the faculty, it's in the dormitories. Throughout the campus, the cost is high. Mostly. But at the same time, there are certain systems. Because there are also systems developed at the ministry level for integration across all universities. Under systems like MYRA and others. Digital Library and such. They want to share everything with public universities and so on. That's also included in the budget under the ministry". –MOHE_Director01*

This analysis highlights a dual-edged dynamic. On the one hand, centralized systems, such as MYRA and digital libraries, provide avenues for resource sharing and standardization, addressing foundational infrastructural needs. On the other hand, these systems reflect coercive pressures that compel universities to adopt standardized approaches without fully addressing their unique contexts and operational capacities. This tension exposes a critical flaw in the implementation strategy: the lack of an integrated approach that bridges policy directives with on-the-ground realities. Without addressing the disparities in resource allocation and institutional readiness, digital education initiatives risk reinforcing existing inequities and limiting their transformative potential.

To achieve a meaningful and sustainable impact, the findings point to the necessity of a differentiated strategy that not only invests in infrastructure but also supports localized adaptations. This requires fostering institutional autonomy while maintaining alignment with national objectives, ensuring that policies and investments are not only ambitious but also pragmatic and contextually responsive.

Connectivity as a Fundamental Requirement

Connectivity is identified as a cornerstone for the successful implementation of digital education, serving as both a technical and symbolic foundation within Malaysia's broader digital education policies. From a neo-institutional perspective, the emphasis on connectivity reflects coercive pressures exerted by government directives and policy frameworks, such as DePAN 2.0, which aim to standardize e-learning accessibility across public universities. These pressures compel institutions to prioritize the establishment of reliable internet infrastructure and the provision of e-learning devices, aligning with national objectives for digital transformation. However, the reality on the ground reveals uneven implementation and significant gaps, particularly in rural and under-resourced institutions, where disparities in connectivity hinder equitable access to digital education.

Policymakers and stakeholders consistently highlight connectivity as a critical enabler of digital education. DePAN_CommitteeMember, a key informant from the DePAN 2.0 committee, stressed:

> *"I believe that when planning for Malaysia's digital future, education will be an integral part. Whatever policy or model we adopt for e-learning in Malaysia, the fundamental requirement is to establish basic infrastructure. This includes ensuring connectivity, particularly internet connectivity. Additionally, students need access to devices that*

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

> *support e-learning for us to progress effectively in this direction". – DePAN_CommitteeMember*

This perspective reinforces the pivotal role of foundational digital infrastructure as the bedrock of any successful digital education strategy. However, it also underscores the coercive institutional pressures that require universities to align with national standards without necessarily addressing the capacity disparities among institutions. From a neo-institutional lens, this dynamic reflects the interplay of institutional isomorphism, where smaller or under-resourced universities face challenges in emulating the connectivity standards of leading institutions.

Adding to this, DePAN_PolicyMaker elaborated on the challenges and potential solutions:

> *"If we are able to provide internet connections that are accessible to every student, along with devices for each student, it will break the first barrier. I believe students would prefer online lessons, but the challenge lies in internet connectivity and device compatibility. Some devices do not support certain types of e-learning delivery. Educators could establish a digital lab equipped with high-tech computers, where students can log in from their own computers. This setup would enable students to perform all tasks without relying on their personal devices. Therefore, addressing issues of internet connectivity and device accessibility is crucial". – DePAN_PolicyMaker*

This statement complements earlier insights by emphasizing that ensuring equitable connectivity and device accessibility is not only a logistical necessity but also a critical step in leveling the educational playing field. The lack of robust infrastructure disproportionately affects students from lower socio-economic backgrounds, perpetuating existing inequities and questioning the inclusiveness of digital education initiatives. Furthermore, institutional responses to these pressures vary, with some universities adopting innovative solutions such as digital labs, while others struggle to meet even basic requirements.

To address these gaps, a differentiated strategy is required—one that accounts for varying institutional capacities while promoting equitable access to resources. Collaborative frameworks between policymakers, universities, and private sector stakeholders are essential for mitigating resource disparities and ensuring that connectivity serves as a bridge, rather than a barrier, to digital transformation. Ensuring reliable internet infrastructure and the availability of e-learning devices are foundational to enabling public universities to achieve their digital education objectives and fulfill the aspirations set forth by DePAN 2.0.

Strategic Initiatives to Promote Digital Education

The successful promotion of digital education in Malaysian public universities hinges on proactive leadership and the implementation of strategic initiatives designed to foster e-learning adoption. From a neo-institutional perspective, these initiatives represent normative and mimetic pressures that drive institutions to align with evolving educational paradigms and global expectations. Proactive measures, such as creating dedicated programs and policies, serve as catalysts for accelerating the integration of digital education across the higher education landscape. However, the findings suggest that while national-level initiatives provide a crucial framework, their success often depends on how well individual universities operationalize these directives within their unique institutional contexts.

International Journal of Modern Education
EISSN: 2637-0905
IJMOE
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

Leadership plays a pivotal role in driving these strategic initiatives. Policymakers and institutional leaders act as change agents, setting priorities that influence resource allocation, program design, and stakeholder engagement. The establishment of dedicated faculties, such as the Faculty of Artificial Intelligence, exemplifies how targeted programs can align institutional goals with broader technological advancements. These initiatives not only signal commitment to innovation but also attract critical investment from industry stakeholders. However, the findings also reveal that institutional responses to such initiatives are varied. While some universities actively embrace these opportunities to position themselves as leaders in digital education, others struggle to align their internal capabilities with external expectations, reflecting challenges of institutional capacity and readiness.

MOHE_Director01 emphasized the importance of proactive initiatives as a driving force behind the promotion of digital education:

> *"Looking at it, my suggestion is that if we want to accelerate online education, we need to be driven by proactive initiatives. I appreciate the initiative taken by our Prime Minister in launching the Faculty of Artificial Intelligence to promote AI in universities. When we attract investors in AI, they seek assurance that we have dedicated faculties and policies. Similarly, for e-learning, we need a driving force. For instance, all programs under KPT could propose initiatives that support e-learning. Such efforts would enhance and promote the use of e-learning, contributing to our overall goals in this area." – MOHE_Director01*

While leadership and targeted initiatives are critical, operational challenges related to awareness and adaptation remain prominent. IIUM_AssistantDirector emphasized the importance of ensuring that guidelines and policies are not only established but also effectively communicated to stakeholders:

> *"Indeed. However, in my opinion, if we already have digital education or guidelines from the ministry or other authorities, it is crucial for these parties to raise awareness about using the platforms, guidelines, or policies. This approach ensures that, as I mentioned earlier, when changes occur, we won't be caught off guard." – IIUM_AssistantDirector*

This perspective highlights a critical gap in the implementation process—awareness and understanding among stakeholders. Without sufficient efforts to raise awareness about digital education policies and platforms, institutions risk resistance to change and inefficiencies during transitions. The informant's observation reinforces the importance of embedding communication and training mechanisms into strategic initiatives to ensure that all stakeholders, from administrators to educators and students, are prepared for shifts in practice.

Critically, these strategic initiatives must be accompanied by mechanisms for monitoring and evaluation to ensure their effectiveness. The absence of robust accountability frameworks can result in uneven implementation and limited scalability, undermining their intended goals. To address these challenges, a balanced approach is needed—one that combines top-down directives with bottom-up engagement from universities and stakeholders. This alignment will ensure that strategic initiatives are not only well-conceived but also effectively operationalized, contributing to the growth and sustainability of digital education in Malaysian higher education.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

Challenges of System Upgrades

System upgrades, while essential for technological advancement, pose significant challenges to the stability and adaptability of institutional workflows. From a neo-institutional perspective, these challenges reflect the tension between normative and coercive pressures to adopt cutting-edge technologies and the institutional inertia rooted in established practices. Technological upgrades, such as those to digital learning platforms, aim to enhance functionality and user experience, aligning universities with global standards. However, the findings suggest that these upgrades often disrupt established workflows, creating resistance among faculty and staff who struggle to adapt to the changes amidst their existing responsibilities.

These challenges are not confined to teaching platforms but extend to larger systemic integrations, such as the unification of hospital education systems across ten university teaching hospitals. MOHE_Director02 elaborated on the financial and logistical hurdles associated with such upgrades:

> *"The key challenge lies in ensuring financial sustainability for integrating the diverse hospital systems of ten university teaching hospitals into a unified Hospital Education System. This effort requires substantial funding to upgrade systems comprehensively, particularly at institutions like Universiti Malaya (UM), which has already secured funding for significant system improvements. Last year's RM150 million budget request underscores the critical financial needs, particularly for institutions such as Universiti Sains Malaysia (USM) and Universiti Kebangsaan Malaysia (UKM), facing hurdles in rewiring and developing internal expertise. Collaboration among HPUs, leveraging their statutory body status for financial transactions, ensures equitable resource distribution and fosters sustainable system development across all participating institutions". – MOHE_Director02*

This insight emphasizes the scale and complexity of systemic upgrades, where financial constraints and capacity disparities among institutions can hinder progress. It highlights the need for collaborative frameworks that leverage collective resources and statutory mechanisms to ensure equitable development across institutions. Such collaboration can address systemic inequities while fostering sustainable growth within the broader higher education landscape.

On an operational level, the disruption caused by system upgrades reveals deeper cultural and organizational issues within institutions. Faculty members often report frustration with frequent changes, which require them to relearn platform functionalities while managing already demanding workloads. These challenges are exacerbated by insufficient training and support, leaving many educators feeling unprepared and overwhelmed. Such resistance highlights the limits of institutional readiness to accommodate technological changes, even when driven by coercive pressures like policy mandates or normative pressures to conform to global standards.

University_TechLead shared a first-hand account of the difficulties posed by frequent platform upgrades:

> *"Every semester, we upgrade Moodle to version 4 point something now. So when we upgrade, changes occur within Moodle itself. In the group, instructors have started asking why the changes? New teams wonder why it's different now, making it difficult for*

International Journal of Modern Education
EISSN: 2637-0905
IJMOE
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

us this semester. They were comfortable with the usual setup. Once they've learned something, it becomes challenging after the upgrade. And they don't have time". – University_TechLead

This statement underscores the unintended consequences of system upgrades, particularly their impact on institutional workflows and user confidence. While the intention behind such upgrades is to modernize and improve platform capabilities, the lack of continuity and the need for constant adaptation can undermine their perceived benefits. These findings align with neo-institutional insights into how institutional routines and cultural norms resist sudden changes, especially when these changes are not accompanied by sufficient communication, training, and support mechanisms.

To address these challenges, institutions must implement more robust strategies for change management, including early engagement with faculty and staff, clear communication of upgrade benefits, and tailored training sessions. By fostering a collaborative approach, institutions can mitigate resistance and create a culture that embraces technological innovation as an enabler rather than a disruption. Moreover, periodic feedback mechanisms can ensure that upgrades address user needs effectively, enhancing their acceptance and integration into daily workflows.

The findings highlight that while system upgrades are vital for progress, their success depends on balancing technological advancements with the human and organizational elements of digital education. By combining financial sustainability efforts for large-scale systems like HPUs with operational improvements for teaching platforms, institutions can create a more cohesive and sustainable approach to technological advancement in higher education.

Discussion

The findings of this study align with the core tenets of neo-institutional theory, emphasizing how structural, normative, and cultural-cognitive mechanisms shape the implementation of digital education policies in Malaysian public universities. Through the perspectives of key stakeholders and an analysis of MEIPTA-issued guidelines, this discussion critically examines the interplay of digital education and institutional behaviors, highlighting the complexities of structural enforcement, normative initiatives, and cultural adaptations.

Structural mechanisms are a fundamental driver of digital education policies, with coercive pressures such as regulations and resource allocations compelling universities to align with national directives. Significant investments in ICT infrastructure, such as those highlighted by MOHE_Director regarding Wi-Fi upgrades and system enhancements, illustrate this alignment. Centralized initiatives like DePAN 2.0 aim to standardize digital education across institutions, ensuring equitable access and integration. These findings are consistent with Zhu (2022), who argued that while digital platforms provide flexible pathways for education, substantial infrastructural investments are required to ensure scalability and consistency. However, frequent system upgrades, as noted by University_TechLead, often disrupt established workflows, creating resistance among faculty and staff who lack the time or support to adapt. This tension is mirrored in Frolova et al. (2022), who observed that poorly managed digital transitions reduce stakeholder satisfaction, highlighting the importance of balancing technological advancement with organizational readiness.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

Normative mechanisms further influence digital education through professional standards and shared expectations, driving institutions to adopt innovative practices and align with global trends. Proactive measures, such as the establishment of AI faculties and strategic initiatives under KPT programs, underscore the critical role of leadership in fostering a culture of innovation. MOHE_Director's emphasis on these initiatives reflects the normative pressures that encourage institutions to position themselves as leaders in digital education. This perspective aligns with Laufer et al. (2021), who noted that collaborative leadership and strategic planning are essential to overcoming resistance and embedding digital practices within institutional norms. Additionally, the integration of gamification strategies and MOOCs illustrates the role of professional practices in enhancing accessibility and engagement. Such efforts echo the priorities outlined by Gourlay et al. (2021), who emphasized the importance of inclusivity and community-building in digital education.

Cultural-cognitive mechanisms further highlight the importance of shared beliefs and understandings in guiding institutional behavior. The findings emphasize the significance of foundational connectivity and device accessibility, as articulated by DePAN_CommitteeMember, reflecting a cultural shift toward recognizing technology as integral to education. This evolution aligns with Pokrovskaia et al. (2021), who noted that shared understandings and consistent organizational approaches are necessary to regulate behavior in digital environments. However, challenges such as frequent system upgrades, described by University_TechLead, demonstrate the difficulties in maintaining stability during transitions. These disruptions underline the importance of fostering adaptability among faculty and staff through targeted training and support, ensuring alignment between policy goals and stakeholder expectations.

The implementation of digital education policies in Malaysian public universities is therefore shaped by a dynamic interplay of structural, normative, and cultural-cognitive mechanisms. Structural investments and policy enforcement provide the foundation for adoption, but their success depends on addressing disparities and institutional readiness. Normative pressures inspire innovation and professional alignment, while cultural-cognitive shifts demand greater adaptability and inclusivity. Together, these mechanisms reveal the complexities of digital transformation in higher education, offering actionable insights for policymakers and institutional leaders seeking to balance technological innovation with organizational stability and equity.

Conclusion

This study provides critical insights into the implementation of digital education policies in Malaysian public universities, framed through the neo-institutional perspective. The findings highlight the complex interplay of structural, normative, and cultural-cognitive mechanisms in shaping institutional behaviors and policy adoption. Structural mechanisms, such as investments in ICT infrastructure and policy enforcement, serve as the foundation for digital transformation but are not without challenges. Disruptions caused by frequent system upgrades emphasize the need for a user-centered approach that aligns technological advancements with institutional capacities and stakeholder readiness.

Normative pressures, driven by leadership initiatives and the promotion of inclusive practices such as gamification and MOOCs, underscore the importance of professional standards and shared expectations in fostering innovation and engagement. These pressures reflect the role

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035

of leadership in aligning institutional practices with national priorities and global benchmarks. However, the sustainability and effectiveness of these initiatives depend on their alignment with institutional contexts and the active participation of diverse stakeholders. Cultural-cognitive mechanisms further emphasize the significance of shared beliefs and stakeholder expectations in ensuring seamless policy adoption and adaptability. Strategies that integrate these shared understandings are critical for fostering organizational cohesion and long-term sustainability in digital education.

While the study offers valuable contributions, its scope presents opportunities for further exploration. The focus on a specific group of stakeholders, such as MOHE directors and DePAN 2.0 committee members, has provided a detailed understanding of policy-level decision-making and strategic initiatives. However, this targeted approach may not fully reflect the diverse experiences of faculty, students, and other institutional actors who are central to the operationalization of these policies. Future research could expand this stakeholder base to provide a more holistic view of the ecosystem and address these perspectives in greater depth. Moreover, the findings represent a snapshot of the current state of policy implementation, offering actionable insights into immediate challenges and dynamics. A longitudinal approach in future studies could complement these findings by assessing the sustainability and long-term outcomes of digital education policies, providing a more comprehensive understanding of their impacts.

To build on the foundation established in this study, future research should also explore comparative analyses across institutions or regions to uncover best practices and contextual differences. Such studies could offer actionable strategies for enhancing digital education on a broader scale, contributing to the development of more equitable, adaptable, and impactful digital education systems in Malaysian public universities. Addressing these areas would deepen the understanding of how neo-institutional mechanisms influence policy implementation and inform the creation of resilient digital education ecosystems that align with institutional capacities and stakeholder needs.

Acknowledgements

The authors declare that this research received no external funding. The authors would also like to thank all individuals who provided insights and constructive comments that helped improve this paper.

References

AlYahmady, H. H., & Alabri, S. S. (2013). Using NVivo for data analysis in qualitative research. *International Interdisciplinary Journal of Education, 2*(2), 181-186.

Anafinova, S. (2024). Localization of the Bologna process in the post-Soviet context: the case of Kazakhstan. *Journal of Comparative & International Higher Education*, 16(3), 219–235. https://doi.org/10.32674/jcihe.v13i5s.4673

Bokolo, A. J. (2021). Institutional factors for faculty members' implementation of blended learning in higher education. *Journal of Education and Training.*

Brown, C. T., & Gilbert, N. (2024b). Comparative social welfare. *Encyclopedia of Social Work*. https://doi.org/10.1093/acrefore/9780199975839.013.879

Butt, A. I., Quraishi, U., & Aziz, F. (2023). Addressing the challenges for universities in the digital era: A framework for e-leadership. *Journal of Arts & Social Sciences*.

Chakraborty, D. (2023). Lessons unlearned from India's online schooling emergency. https://doi.org/10.54377/5d1a-64d6

International Journal of Modern Education
EISSN: 2637-0905
IJMOE
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035
Csizmadia, T., Enders, J., & Westerheijden, D. F. (2008). Quality management in Hungarian higher education: Organisational responses to governmental policy. *Higher Education, 56*(4), 439–455.

Dervishi, F., & Vrapi, A. (2022). The importance of teacher training and the creation of an appropriate school infrastructure for the implementation of digital platforms in Pre-University education. *Prima Educatione*, 6, 171–181. https://doi.org/10.17951/pe.2022.6.171-181

Dhaygude, M. S., Lapsiya, N. D., & Chakraborty, D. (2022). There is No App for That: Manifestations of the Digital Divides During COVID-19 School Closures in India. *Proceedings of the ACM on Human-Computer Interaction, 6(CSCW2)*, 1–26. https://doi.org/10.1145/3555140

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: institutional isomorphism in organizational fields. *American Sociological Review*, 48, 147-160.

Ghosh, J. (2013). Towards a policy framework for reducing inequalities. *Development,* 56(2), 218–222. https://doi.org/10.1057/dev.2013.28

Hakimi, L., Eynon, R., & Murphy, V. (2021). The ethics of using digital trace data in education: A thematic review of the research landscape. *Review of Educational Research, 91*(4), 671-717.

Kelly-Jackson, M. (2018). Digital technology and qualitative research: A book review of Maggi Savin-Baden and Gemma Tombs' research methods for education in the digital age. *The Qualitative Report, 23*(8), 1904.

Lee, M. N. N. (2015). Higher education in Malaysia: National strategies and innovative practices. In *Springer eBooks* (pp. 105–118). https://doi.org/10.1007/978-3-319-12673-9_6

Medley, M. (2001). Using qualitative research software for CS education research. *SIGCSE Bulletin, 33*(1), 141-144.

Ministry of Higher Education Malaysia. (2011). *Dasar e-Pembelajaran Negara 2.0.* Kuala Lumpur: Department of Higher Education Malaysia.

Newman, P. A., Guta, A., & Black, T. (2021). Ethical considerations for qualitative research methods during the COVID-19 pandemic and other emergency situations: Navigating the virtual field. *International Journal of Qualitative Methods, 20,* Article 16094069211047823

Olofsson, A. D., & Lindberg, J. O. (2021). A glimpse of a Nordic model? Policy and practice in the digitalisation of the K-12 school and teacher education in Denmark, Finland, Norway and Sweden: Editorial introduction. *Education Inquiry*, 12(4), 311–316. https://doi.org/10.1080/20004508.2021.1988451

Raskind, I. G., Shelton, R. C., Comeau, D. L., Cooper, H., Griffith, D., & Kegler, M. (2018). A review of qualitative data analysis practices in health education and health behavior research. *Health Education & Behavior, 46*(1), 32-39.

Reinalda, B., & Kulesza, E. (2006). *The Bologna Process – Harmonizing Europe's higher education*. https://doi.org/10.2307/j.ctvbkk39v

Røe, Y., Wojniusz, S., & Bjerke, A. H. (2022). The digital transformation of higher education teaching: Four pedagogical prescriptions to move active learning pedagogy forward. *Frontiers in Education*.

Savenye, W. C., & Robinson, R. S. (2005). Using qualitative research methods in higher education. *Journal of Computing in Higher Education, 16*(2), 65-95.

International Journal of Modern Education
EISSN: 2637-0905
IJMOE
Volume 7 Issue 27 (October 2025) PP. 571-588
DOI: 10.35631/IJMOE.727035
Stranger, A. P., Varas, G., & Mobuchon, G. (2023). Managing inter-university digital collaboration from a bottom-up approach: Lessons from organizational, pedagogical, and technological dimensions. *Sustainability*.

Strielkowski, W., Korneeva, E. N., Sherstobitova, A. A., & Platitzyn, A. Y. (2022). Strategic University Management in the context of Digitalization: The experience of the world's leading universities. Integration of Education, 26(3), 402–417. https://doi.org/10.15507/1991-9468.108.026.202203.402-417

Stukalina, Y. (2021). Towards Innovative Education: Developing Digital Learning Strategy in a Modern University. In: Kabashkin, I., Yatskiv, I., Prentkovskis, O. (eds) Reliability and Statistics in Transportation and Communication. RelStat 2020. Lecture Notes in Networks and Systems, vol 195. Springer, Cham. https://doi.org/10.1007/978-3-030-68476-1_73