



MINISTRY OF HIGHER EDUCATION

DIGITALISATION OF HIGHER EDUCATION POLICY 2025-2030





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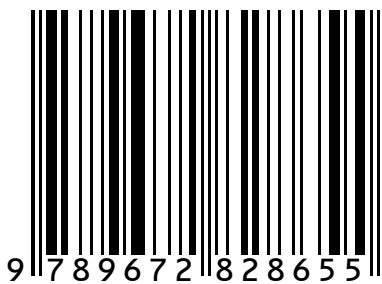
**DIGITALISATION OF HIGHER EDUCATION POLICY
2025-2030**

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Digitalisation of Higher Education Policy 2025-2030

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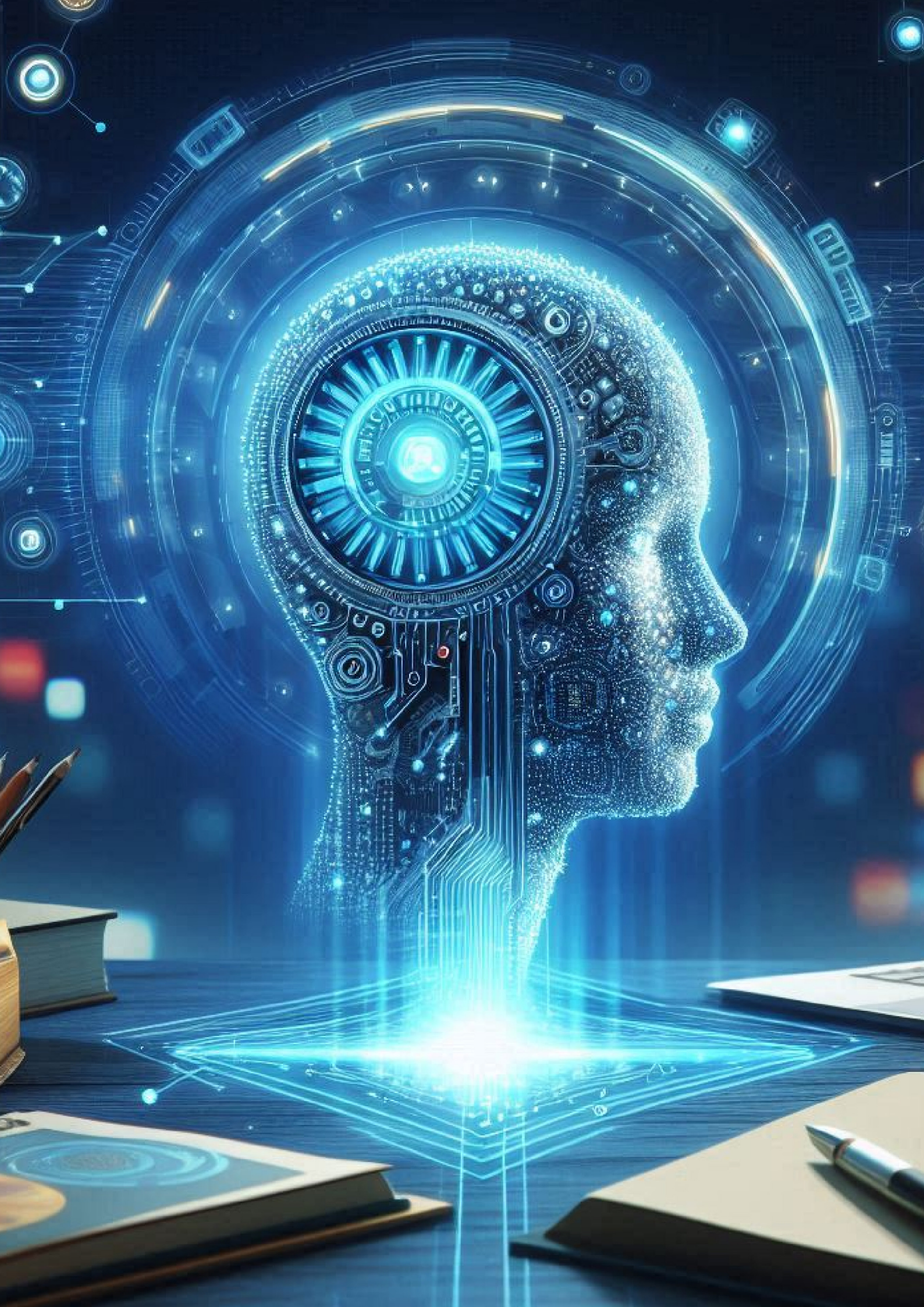


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GLOSSARY

ABBREVIATIONS

DEFINITION

AI	Artificial Intelligence
API	Application Programming Interface
AR	Augmented Reality
BCP	Business Continuity Plan
CBE	Competency-Based Education
CDO	Chief Digital Officer
COVID-19	Coronavirus Disease 2019
DaSSCo	Danish System of Scientific Collections
EdTech	Education Technology
ETP	Economic Transformation Programme
EU	European Union
GTP	Government Transformation Programme
HEI	Higher Education Institution
IoT	Internet of Things
ISP	Internet Service Provider
KERIS	Korea Education and Research Information Service
MoHE	Ministry of Higher Education (<i>Kementerian Pendidikan Tinggi</i>)
MRUN	Malaysian Research University Network
RU	Research University
SDG	Sustainable Development Goal
SPSS	Statistical Package for the Social Sciences
TVET	Technical and Vocational Education and Training
UK	United Kingdom
UM	University of Malaya
US	United States
VR	Virtual Reality
WKB 2030	Shared Prosperity Vision 2030



FOREWORD

Dato' Seri Diraja Dr. Zambrly Abd Kadir
Minister of Higher Education

Alhamdulillah, with His permission and blessings, I am deeply honoured to present the Higher Education Digitalisation Policy and Action Plan 2025–2030. This policy is a strategic document designed to strengthen and empower Malaysia's higher education ecosystem in a digital era that is increasingly challenging yet full of new opportunities.

The COVID-19 pandemic accelerated the need to adopt digital technologies in learning, but it also exposed significant gaps in infrastructure, institutional readiness and the digital competencies of educators and students. As such, digital transformation is no longer an option but a critical necessity to ensure quality education, equitable access and the long-term sustainability of our higher education system.

This policy builds upon key national frameworks such as the Malaysia Education Blueprint 2015–2025 (Higher Education) and the Higher Education Action Plan 2022–2025. It also aligns with global aspirations through the Sustainable Development Goals (SDGs), particularly in advancing quality education and innovation. With this roadmap, Malaysia seeks to strengthen its position as a regional hub for digital learning.

The policy emphasises leadership, governance, data infrastructure and the enhancement of digital competencies among academics, students and institutional leaders. Through the Higher Education Institution Digital Maturity Framework outlined in this study, we now have a clear guide to systematically assess and advance digitalisation, from basic digitisation to full integration, innovation and high-speed connectivity.

To ensure meaningful impact, this Policy and Action Plan identifies three (3) key enablers and six (6) strategic thrusts, supported by 26 targeted initiatives to be implemented in phases until 2030. This phased approach will not only strengthen the resilience of our higher education ecosystem but also ensure that it remains relevant, inclusive and globally competitive.

I sincerely hope that all stakeholders, across ministries, agencies, higher education institutions, industry and society will work together to realise this shared vision. With our collective commitment, insya-Allah, Malaysia will nurture an adaptive, innovative and lifelong learning ecosystem capable of producing a competitive generation to lead the nation into the future.



FOREWORD

Datuk Dr. Anesee bin Ibrahim
Secretary General, Minister of Higher Education

The Higher Education Digitalisation Policy and Action Plan 2025–2030 is the product of a collective effort born out of the critical need to ensure that Malaysia’s higher education system remains resilient, inclusive and competitive on the global stage. The development of this policy draws from lessons learned during the COVID-19 pandemic, while also reflecting the views and aspirations of diverse stakeholders including public and private higher education institutions, government agencies, industry partners as well as references to international best practices.

The Ministry recognises that digitalisation is not merely a matter of technological infrastructure, but also requires strong leadership, effective governance, digital competencies and a holistic culture of innovation. Accordingly, the framework outlined provides a clear direction to strengthen foundations, close existing gaps and drive transformation in a phased and coordinated manner.

The implementation of this policy will be closely monitored through robust coordination and monitoring mechanisms to ensure that the 26 initiatives identified are delivered according to their respective phases and timelines. Its success will ultimately depend on the shared commitment of the entire higher education ecosystem, encompassing institutional leadership, academia, students, industry and society at large.

I wish to express my deepest appreciation to all who have contributed to the development of this policy, whether through research, discussions or the sharing of best practices. It is only through a spirit of collaboration and collective dedication that the aspirations of digitalising Malaysia’s higher education can be fully realised.

Thank you.

Executive Summary

The Higher Education Digitalisation Policy and Action Plan 2025–2030 sets out a comprehensive roadmap to strengthen and future-proof Malaysia’s higher education sector in the digital era. It builds upon the foundations of the Malaysia Education Blueprint 2015–2025 (Higher Education) and the Higher Education Action Plan 2022–2025. The policy responds to the acceleration of digital adoption brought about by the COVID-19 pandemic, which, while enabling continuity of learning, also exposed significant gaps in infrastructure, institutional readiness and the digital capabilities of educators and students.

Malaysia’s higher education system, with over 1.2 million students and more than 70,000 staff across public and private institutions, must evolve to remain competitive, resilient and inclusive. Digitalisation is no longer an option but a necessity to ensure quality education, equitable access and long-term sustainability. The policy is also closely tied to global priorities, particularly the Sustainable Development Goals on quality education and innovation and positions Malaysia to strengthen its standing as a regional hub for digital learning.





Insights from global peers underscore that successful digital transformation requires strong governance, inclusive access, robust infrastructure and an ecosystem that supports digital competencies, research and innovation. Equally important is the cultivation of leadership and institutional culture that embraces collaboration, inclusivity and adaptability to change. These lessons serve as important guideposts for Malaysia as it embarks on the next phase of its digital transformation journey.

Central to this effort is a structured model that allows institutions to benchmark their progress in adopting and embedding digitalisation. The Higher Education Institution Digital Maturity Framework outlines six progressive stages, beginning with basic digitisation and conversion, moving through automation, collaboration and data-driven decision-making and culminating in high-speed connectivity, integration and innovation. This framework ensures that institutions can advance in a systematic and coordinated way, closing foundational gaps while building towards a fully interoperable and innovation-driven higher education ecosystem.

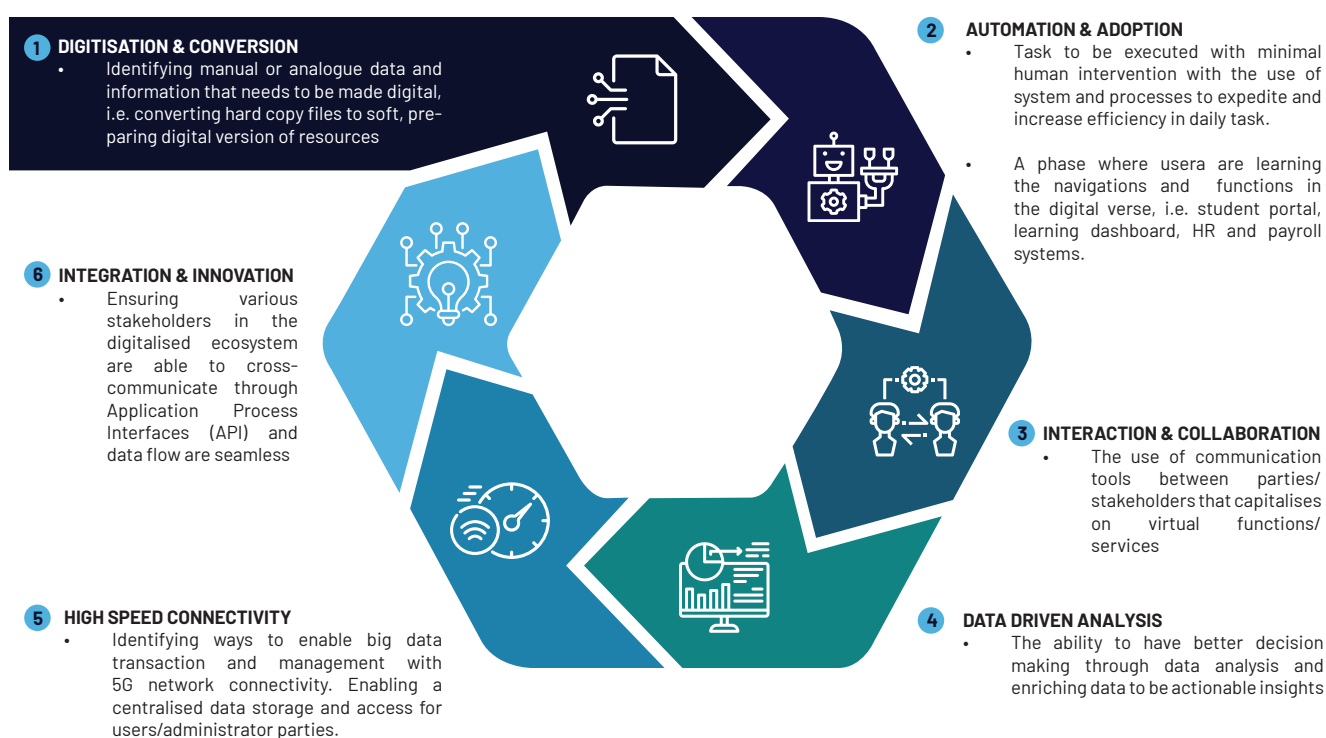


Figure 1: Six Stages of Digitalisation

The current policy will be guided by a vision of building an adaptive, innovative and lifelong learning ecosystem. This vision places emphasis on the use of diverse technologies to meet different student needs, the integration of new approaches such as artificial intelligence, immersive tools and gamification and the promotion of effective, evidence-based pedagogy that allows for more personalised learning pathways. It also reflects the need for higher education systems to remain agile in responding to evolving labour market demands, while ensuring that opportunities for lifelong learning are widely available and inclusive.

To realise this vision, the policy is structured around three core enablers and six strategic thrusts. The enablers focus on strengthening leadership and governance to drive digital adoption, enhancing the digital competencies of staff, students and institutional leaders and building the data infrastructure necessary for evidence-based decisions. Complementing these enablers are the strategic thrusts, which set out clear directions for improving infrastructure, embedding automation, expanding collaboration tools, advancing data-driven decision-making, extending high-speed connectivity and accelerating integration and innovation.

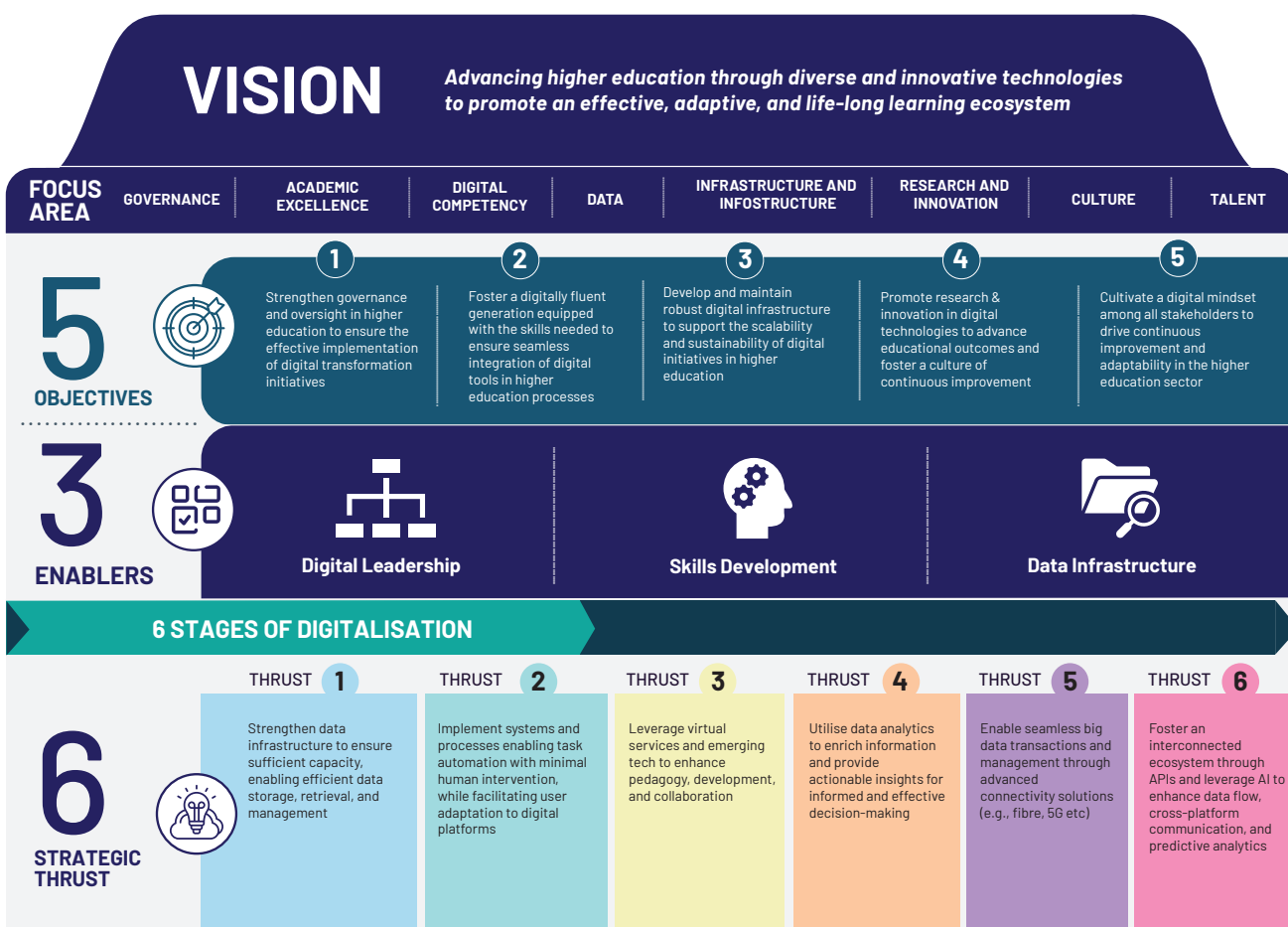


Figure 2: Digitalisation of Higher Education Policy 2025-2030 Framework

Together, these enablers and thrusts provide the foundation for 26 targeted initiatives that will be implemented in phases from 2026 to 2030. This phased approach ensures flexibility, allowing for continuous refinement while enabling measurable progress towards a higher education system that is resilient, future-ready and globally competitive.




1. BACKGROUND

1.1 Introduction

Digitalisation of Higher Education, referring to the comprehensive integration of digital technologies and tools into all aspects of the educational process, has led to the need to create a learning ecosystem that provides enhanced teaching and learning experiences capable of expanding educational access while improving the quality of higher education. The COVID-19 pandemic, be it positive or negative, has affected the world in 2020 significantly. Not only causing large movements across the economy sector, many of Malaysia's digitalisation landscape across fields are facing sudden changes, but most importantly, impacting the higher education sector forcing great changes particularly because it was still chiefly considered an "traditional" sector. Despite facing significant challenges in the beginning, the pandemic led to several new norms as drastic digital transformation became key to ensure business continuity. To ensure that Malaysia's higher education system remains relevant as the nation transitions to a new era, the government must continue to strive to build and develop a more conducive and inclusive education ecosystem guided by relevant policies and roadmap for both public and private higher education institutions.

The evolution of Malaysia's higher education has been guided by several dynamic national policies starting off with the National Higher Education Strategic Plan in 2007. Since then, the government has introduced various transformation strategies, including the Government Transformation Programme (GTP), Economic Transformation Programme (ETP) and the Malaysia Education Blueprint 2015-2025 (Higher Education). Moreover, the government published the Malaysia Education Blueprint 2015-2025 (Higher Education) to address global trends such as the digitalisation of education, which was then supplemented by the Malaysia Higher Education Action Plan 2022-2025. These documents were also guided by the emphasis placed on education in the Shared Prosperity Vision 2030 (WKB 2030) and the Twelfth Malaysia Plan.



The alignment of the Higher Education Digitalisation Policy and Action Plan 2025-2030 with “Shift 9 Globalised Online Learning” addressed within the Malaysia Education Blueprint 2015-2025 (Higher Education) and the Malaysia Higher Education Action Plan 2022-2025 represents the unified direction of Malaysia’s current higher education landscape. The two policy that comes before served as the fundamental building blocks during its developmental process as they predominantly focused on making online learning an essential component of higher education and lifelong learning as well as creating the necessary digital infrastructure to strengthen the academic community’s ability to improve the delivery of online teaching and learning that paved the way for new technological adaptations.

In addition, Shift 9 aligns with efforts to support several Sustainable Development Goals (SDGs) of the United Nations, namely Quality Education (SDG 4) and Industry, Innovation and Infrastructure (SDG 9). Access to quality and comprehensive online learning, tailored to student needs will increase higher education student enrolment in line with SDG 4 while a conducive online education infrastructure will improve the quality of education delivery and raise the visibility of Malaysian education at the international level, in line with SDG 9. These are just the few examples of beneficial attributes and potential impacts the policy could have.

1.2 Defining Digitalisation

Digitalisation concerns the use of technology to renew, simplify and improve processes, tasks and products or outputs. As defined by Gartner Glossary, digitalisation is the fundamental process that enables the use of digital data/ information and technologies to improve and modernise various aspects of day-to-day activities. Not to be mistaken with digitisation, digitalisation goes beyond converting analogue to digital, it requires a strategically integrated infrastructure and streamlined processes to ensure optimised operations, workflows and communication in a robust ecosystem. Automation, cloud computing, data analytics, smart scanner and Internet of Things (IoT) are the commonly used tools/ functions when adopting digitalisation in industry practices.

Digitalisation in higher education meanwhile is defined as the comprehensive integration and utilisation of digital technologies, tools and processes to enhance the end-to-end aspect of teaching and learning, student experience, administration and the overall running of a higher education institution. This involves various aspects that contribute to the overall quality of higher education institutions (HEIs), including organisational issues, technological infrastructure, pedagogical methodologies and the provision of flexible learning opportunities that influences the accessibility for students. The implementation of digitalisation in HEIs involves the adoption of digital learning platforms, the creation of online educational resources, the implementation of virtual teaching methodologies, the digitalisation of administrative processes, the use of data-driven decisions in management and the development of digital skills among students and educators. Free from the boundaries of traditional learning methodologies, continuation of lifelong learning is also made available to learners of various age groups and socioeconomic backgrounds by the opportunities presented through digitalised learning.





2. GLOBAL TRENDS

The disruption brought forward by the COVID-19 pandemic has accelerated the world's transition towards the digital age, bringing substantial changes to fundamental processes within industries. Within the higher education landscape, the digitalisation wave sheds light onto innovative methodologies that aims to enhance and revolutionise current educational practices. Higher education institutions worldwide are continuously integrating advanced technologies to ensure seamless operational processes, promote personalised learning experiences and increase student's educational accessibility all in efforts to prepare for future workforce demands while fostering a culture of continuous learning and innovation.

A significant trend that is taking the world by storm is the application of Advanced AI. Evidently, not just in nearly every aspect our daily lives, AI is poised to substantially transform the higher education landscape as well. One of the major changes that can be anticipated in the increasing use of Generative AI for assessment purposes. Traditionally, educational assessments are focused on memorisation which measures students' ability to recall information. With Generative AI, traditional assessments can be altered and transformed into interactive experiences where AI *Chatbots* evaluate students' knowledge and skills in real-time, without biasedness involved. Operating on algorithms, the use of Generative AI ensures fairness and consistency, leveling the playing field.

“ 99.4% of 509 higher education institutions in the US say that AI in education and learning will be instrumental to their future¹. ”

Taking a step further, uses of Generative AI supported by AI chatbots within educational settings has begun gaining traction as well. It can efficiently and accurately interact with students whilst recording their responses as audio files within the system, allowing students to experience exams as an intellectual conversation. Designed to interact seamlessly with students, dynamic conversations that adapt and evolve based on students' responses allows for a comprehensive evaluation of their abilities such as problem-solving skills, knowledge depth as well as domain-specific skills. This shift of focus from rote memorisation to skill-based evaluation addresses the gap of overlooking the importance of real-world skills where traditional assessments could not.

¹ Verma, N. (2023) How effective is AI in education? 10 case studies and examples, Axon Park. (<https://axonpark.com/how-effective-is-ai-in-education-10-case-studies-and-examples/>)

Aligned with global developments and trends in higher education, hybrid learning that incorporates online methods continues to be a key driver in global higher education in 2024. As classrooms and campuses becomes increasingly digitalised, hybrid and online learning proves to be the solution in creating a dynamic learning environment for students through the merger of physical and virtual classrooms. The introduction of these interactive learning methodologies has given rise to short-term courses within institutions, providing students with a richer and more diverse education. Through the combination of traditional institutional experience and specialised online skills, students are provided with the opportunity to increase his/her knowledge that results in increasing competitiveness which increases marketability and employability in today's market demands. Offering engaging, seamless blends of in-person and online education, while supported by the necessary platforms and resources, this blended approach provides a dynamic and adaptable education experience that cater to the unique needs of each student, gaining benefits from the best of both worlds.

Gone are the days of monotonous lectures and a one-size-fits-all teaching methodology. The integration of new, advance technologies is revolutionising the education frontier with the introduction of new teaching methodologies. One of these revolutions include gamification of the learning process. With assistance from advance technologies like AI, learning experiences within higher education institutions has been elevated from being predominantly a monotonous learning experience of just books, lectures and assignments, to an interactive and engaging adventure through the integration of quizzes, interactive games and gamified assignment process. Incorporating gaming elements such as points, badges and leaderboards, gamification has proven to heighten students' learning experience, motivation as well as participation. Personalised feedback and support provided has assisted educators in accommodating to students' individual learning styles while ensuring the overall learning experience continues to be fun, interactive and memorable.

These rising trends, supported together by the availability of Hybrid and Online Learning, together with the rise of AI integration has further expanded the limitations of personalised learning. Marked by the rise of personal AI tutors, a new chapter unfolds in the world of educational technology that unlocks the potential latent potential of personalised learning. In 2024, personalised AI tutors will be able to provide continuous guidance in the absence of an educator. Through analysing students' individual patterns, strengths and weaknesses, these AI tutors are able to adapt their teaching methods accordingly, ensuring an all-encompassing experience for students. Streamlined operations allows for students FAQs to be addressed seamlessly as well as assisting students in administrative tasks more efficiently.

Additionally, it is noted that the Fourth Industrial Revolution driven by digital transformation has a profound effect on the global labour force, more precisely, the segregation of labour and machines, algorithms and humans, which is poised to generate 133 million² new roles globally by 2022.

² Machines will do more tasks than humans by 2025 but robot revolution will still create 58 million net new jobs in next five years, World Economic Forum. Available at: <https://www.weforum.org/press/2018/09/machines-will-do-more-tasks-than-humans-by-2025-but-robot-revolution-will-still-create-58-million-net-new-jobs-in-next-five-years>



This technological shift prompts global higher education institutions to begin incorporating Competency-Based Education (CBE) which stands as the blend to address the needs of individual students and expanding necessary skillsets to meet future job market demands.

Another significant trend witnessed globally is the increasing use of advanced technologies within the learning process, particularly Augmented Reality (AR) and Virtual Reality (VR). Despite its slow adoption in the beginning when the technology is available, further research and reports have shown a gradual increase in such technology integration. The ability to offer engaging experiences compared to traditional lectures are beginning to gain prominence. For instance, with AR or VR headsets, institutions are able to transport students in a biology class to the ocean floor 60 million years ago, providing an informative and immersive learning experience. This possibility that existed only recently has entirely changed the playing field within educational space. In addition, the use cases for blockchain technology within the higher education space continues to increase. With institutions integrating it into certification systems, it allows for a more efficient and accurate source of information for students, institutions and potential employers alike.

Heightened focus on collaborative leadership continues to be in the limelight. As effective leadership is essential for fostering innovation, inclusivity and excellence, leaders must be forward-thinking, anticipating emerging trends as well as possessing the ability to create a culture that values diversity, collaboration and upholds integrity and core values that is crucial to inspire confidence and trust among stakeholders. Together with transparent communication channels which are vital in addressing challenges, these qualities of a collaborative leader will result in a more dynamic and resilient models within higher education institutions to ensure its prepared to face future changes.

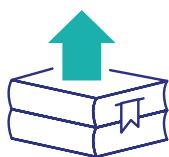
2.1 Global best practices: Lessons for Malaysia's Digital Higher Education Transformation

A review of global best practices shows that digital transformation in higher education is most successful when it is supported by strong governance, quality assurance, inclusive infrastructure, digital competency development, research and innovation and a digitally oriented culture. Countries such as the EU member states, the United Kingdom, Hungary, Denmark and South Korea each provide instructive models for Malaysia.



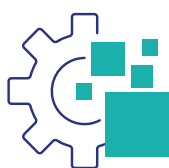
A. Strengthening Governance and Strategic Alignment

European countries offer valuable examples of coordinated governance for digital education. The EU's Digital Education Action Plan and its Structured Dialogue process help ensure that national and institutional strategies are aligned³. Mechanisms like the European Digital Education Hub encourage collaboration across ministries, institutions and sectors⁴. Malaysia can adopt a similar approach by developing a national coordination mechanism that facilitates policy alignment, cross-agency collaboration and shared data infrastructure among higher education institutions.



B. Advancing Teaching Quality and Learning Flexibility

The United Kingdom demonstrates how academic quality can be enhanced through targeted investments and structured quality assurance⁵. Capital grants are used to modernise learning environments while frameworks like the Digital Learning Taxonomy support consistent teaching standards⁶. UK universities have also expanded online learning options to improve flexibility and reach. Malaysia can draw from these practices by investing blended learning infrastructure, strengthening digital pedagogy frameworks and scaling up open distance learning to reach more diverse student populations.



C. Developing Digital Competency Ecosystem

Hungary shows a whole-of-nation approach can effectively build digital skills among both students and educators. Through its Digital Education Strategy and coordinated training networks, Hungary supports widespread adoption of digital tools and content⁷. Dedicated institutions lead the development of national platforms, teacher training and lifelong learning programmes. Malaysia can benefit from a similar model by embedding digital skills across curricula, providing structured professional development and linking public and private sectors in a coordinated ecosystem.

³ Digital Education Action Plan (2021-2027). (2023)

⁴ European Digital Education Hub. (n.d.)

⁵ Digital Strategies in UK Higher Education: Making Digital Mainstream, Jisc. (2023)

⁶ Digital Higher Education: Emerging Quality Standards, Practices and Supports, OECD. (2022)

⁷ Digital Success Programme 2030. (2015)



D. Ensuring Inclusive Infrastructure and Access

France's strategy focuses on ensuring digital inclusion for all learners. National initiatives provide every student access to digital devices and internet connectivity, while also supporting the development of digital resources that are accessible to students with disabilities⁸. The use of sovereign digital platforms further strengthens national digital data security and content control. Malaysia can improve equity in access by standardising infrastructure support across all types of institutions and by addressing usage challenges, especially among underserved groups such as those in Community Colleges.



E. Investing in Research & Innovation

Denmark provides strong example of how digital tools and shared infrastructure can enhance research capabilities⁹. Its national roadmap channels significant investment into digital research infrastructure while initiatives like DIGHUMLAB and DaSSCo connect universities, libraries and museums to create open-access research ecosystems. Malaysia has the opportunity to build similar frameworks by increasing transparency in research funding, encouraging inter-institutional collaboration and promoting wider adoption of open-access publishing to improve research visibility and global competitiveness.



F. Building a Digital Culture through Policy and Platforms

South Korea's experience highlights the importance of embedding a digital mindset across society and within the education system. Government-backed platforms like KERIS and K-Edu Integrated Platform unify administrative and learning systems, while collaboration with EdTech companies drives innovation in classrooms^{10,11}. High international rankings of Korean universities in computer science reflect a national culture that embraces digitalisation. For Malaysia, the priority is to cultivate this mindset by encouraging digital civic participation, global collaboration and entrepreneurial thinking among students and educators. This also involves integrating digital culture into the curriculum and fostering openness to international practices.

⁸ France: Digital Strategy for Education 2023-2027. (n.d.)

⁹ Danish Roadmap for Research Infrastructures 2020. (n.d.)

¹⁰ KERIS - PROJECT AREAS - Digital Education Policy Division. (n.d.)

¹¹ 2021 White Paper on ICT in Education in Korea. (2021)

3. HEI LANDSCAPE

Emerging as a pivotal force, digital transformation reshapes not only the current business and economic landscape, but also the educational paradigms worldwide. In today's rapidly evolving digital landscape, Malaysia's higher education sector finds itself at a pivotal juncture, grappling with both the challenges and opportunities posed by current technological advancements and changing educational needs. Integration of digital transformation is no longer just about adopting new technologies, but rather, primarily focused on reshaping teaching methodologies, improving access to education and ensuring relevance of academic programmes offered in today's digital age.

To date, there is total of 551 higher education institutions (Public Universities, Private Higher Education Institutions (PHEI), Polytechnics and Community Colleges) catering to approximately 1.2 million students and over 70,000 staffs making Malaysia a prime destination for tertiary education for both domestic and international students. The 20 Public Universities account for approximately 47.5% of all student enrolments for the year 2023 followed by PHEIs at 44.8%. The detailed breakdown on institution and enrolment numbers are indicate in the figure below.

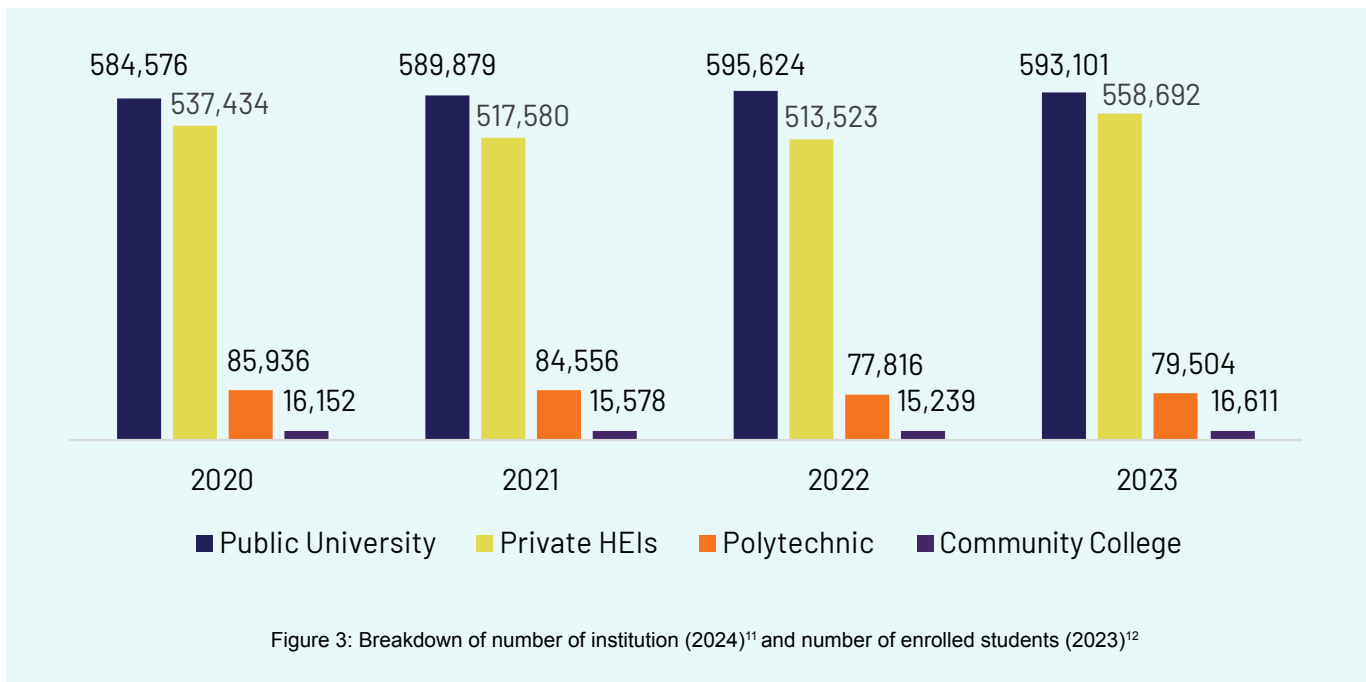


Figure 3: Breakdown of number of institution (2024)¹¹ and number of enrolled students (2023)¹²

¹¹ Ministry of Higher Education. Available at: <https://www.mohe.gov.my/en>

¹² Statistics of Higher Education 2023

Public Universities in Malaysia play a pivotal role in shaping the academic landscape, catering to a significant portion of the student population across the nation. With a responsibility to provide quality education, these institutions serve as key contributors to the country's intellectual growth and workforce development. In the evolving landscape of education, the current state of digitalisation in these 20 public universities reflects both opportunities and challenges. As Malaysia advances towards a digital era, the adoption of digital technologies becomes imperative for enhancing teaching and learning experiences, streamlining administrative processes and ensuring efficient data management.

Private Higher Education Institutions (PHEIs) meanwhile hold a significant position within Malaysia's educational framework, providing a diverse array of academic opportunities and skills development avenues. These institutions play a crucial role in expanding access to higher education and addressing the evolving needs of students across the country. However, the landscape of the 390 private HEIs in Malaysia is characterised by a notable dichotomy, with larger, more advanced institutions coexisting alongside smaller, more traditional ones. While some private universities and colleges boast state-of-the-art facilities, robust research capabilities and international affiliations, others may struggle with limited resources and infrastructure. Despite these differences, both types of institutions contribute to Malaysia's educational landscape, offering a range of programmes and educational experiences to students from diverse backgrounds.

Polytechnics Institutions are crucial as due to the evolving needs of the job market. Through integration of modern technologies and industry-relevant skills into curriculum delivery, Technical and Vocational Education and Training (TVET) students can gain hands-on experience and learn practical skills that translates to real-world applications, equipping graduates with competencies sought after by employers in diverse industries, increasing graduates' competitiveness. By enriching the learning experience of TVET students, graduates will have the opportunity to gain the necessary ability to adopt and adapt to current technical skill needs and successfully applying these relevant skills will prove to be paramount for students' career success especially in this rapidly evolving job market characterised by technological advancement and digitalisation. Only through adequate digital transformation and digitalisation, together with advocacy and support from top management within the institution, graduates can then be well-prepared to meet the demands of the modern workforce which contributes significantly and meaningfully to the nations' economic development.

Community Colleges in Malaysia stand at the cusp of a transformative era, where digitalisation presents both challenges and opportunities. As the higher education landscape embraces technological advancements, these institutions, renowned for their focus on TVET education, must adapt and integrate digital tools into their core fabric. This transition is not merely about adopting innovative teaching methods, but about fostering a digitally literate and adaptable workforce, capable of thriving in the rapidly evolving job market. By harnessing the power of digitalisation, community colleges can empower students with practical skills, cultivate industry-relevant expertise and position themselves as key players in shaping Malaysia's future-ready workforce.

4. HEI DIGITAL MATURITY FRAMEWORK

The HEI Digital Maturity Framework was developed as a structured assessment to evaluate the digitalisation progress of HEIs across Malaysia. This framework provides a clear, data-driven understanding of where each institution currently stands in its digital transformation journey, identifying gaps, needs and targets to inform future policy planning and resource allocation. The goal is to enable HEIs to systematically enhance their digital maturity, ensuring that they can effectively adopt and integrate digital tools, infrastructure and processes in alignment with national higher education digitalisation objectives.

To achieve this, the assessment categorises HEIs into six distinct stages of digitalisation:

01

Digitisation & Conversion: Institutions at this stage are in the process of converting analogue data and manual processes into digital formats, ensuring foundational digital storage and accessibility.

02

Automation & Adoption: At this stage, institutions begin implementing digital tools and automated workflows to enhance operational efficiency while minimising manual intervention.

03

Interaction & Collaboration: HEIs leverage virtual tools and digital platforms to facilitate seamless communication, engagement and collaboration among stakeholders.

04

Data-Driven Analysis: Institutions utilise data analytics and insights to improve decision-making, operational planning and strategic governance.

05

High-Speed Connectivity: At this advanced stage, institutions establish high-speed networks and data management systems to enable seamless data exchange, big data processing and centralised access to digital resources.

06

Integration & Innovation: The most mature institutions in digital transformation have achieved full ecosystem interoperability, where cross-platform data flows and AI-powered automation drive efficiency through API integration and emerging technologies.

The figure below illustrates these six stages along with their corresponding definitions, providing a clearer understanding of the progression of digital transformation in HEIs and the key focus areas at each stage. These stages act as a linchpin for the development of the six core strategic thrusts as described in the following section.

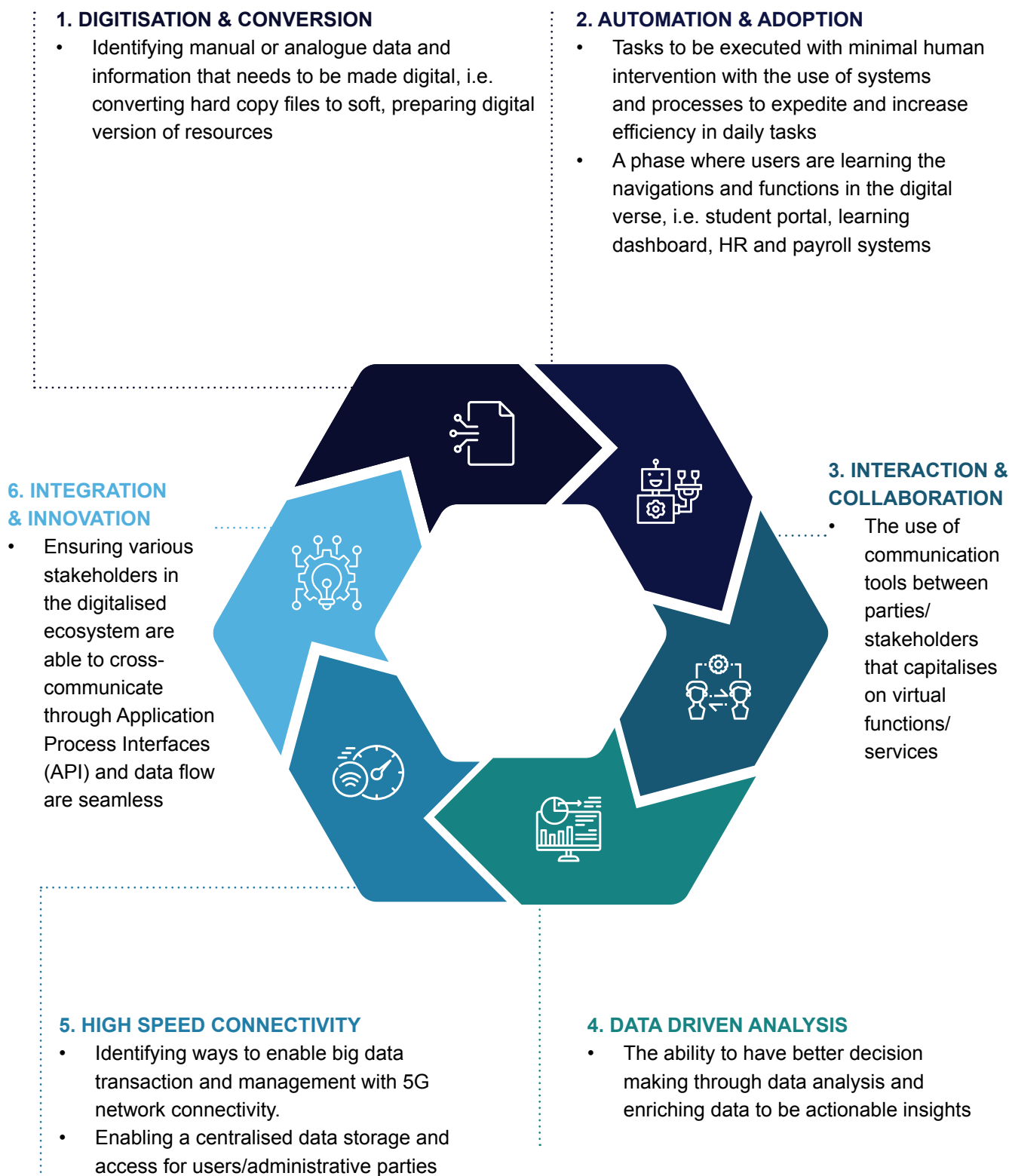


Figure 4: Six Stages of Digitalisation

5. THE WAY FORWARD

5.1 Future State Framework

The digital transformation of the higher education sector is designed to future-proof institutions, ensuring they remain effective, adaptive and capable of fostering lifelong learning. In an era marked by rapid technological advancements, higher education institutions must embrace digitalisation to remain both competitive and relevant.



Figure 5: Digitalisation of Higher Education Policy 2025-2030 Framework

Envisioning a robust and dynamic future state framework is imperative to address the unique challenges identified within the higher education sector. The below framework is strategically designed based on key insights gained from the executed comparative analysis that includes various stakeholder engagements sessions such as surveys, in-depth interviews and focus group discussions as well as a visioning workshop, in efforts to capture and distil on-the-ground challenges and opportunities.

Advancing higher education through diverse and innovative technologies to promote an effective, adaptive, and life-long learning ecosystem

INFRASTRUCTURE AND INFOSTRUCTURE

RESEARCH AND INNOVATION

CULTURE

TALENT

3

Develop and maintain robust digital infrastructure to support the scalability and sustainability of digital initiatives in higher education

4

Promote research & innovation in digital technologies to advance educational outcomes and foster a culture of continuous improvement

5

Cultivate a digital mindset among all stakeholders to drive continuous improvement and adaptability in the higher education sector



Skills Development



Data Infrastructure

THRUST 3

Leverage virtual services and emerging tech to enhance pedagogy, development, and collaboration

THRUST 4

Utilise data analytics to enrich information and provide actionable insights for informed and effective decision-making

THRUST 5

Enable seamless big data transactions and management through advanced connectivity solutions (e.g., fibre, 5G etc)

THRUST 6

Foster an interconnected ecosystem through APIs and leverage AI to enhance data flow, cross-platform communication, and predictive analytics

5.2 The Vision: Definition

The vision for the future state framework is centred on advancing higher education through diverse and innovative technologies to promote an effective adaptive education and life-long learning ecosystem. This vision is defined by several key components:

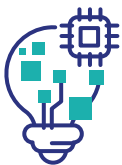
A. Diverse Technologies



Diverse education refers to the incorporation of a wide range of digital tools and instructional approaches to meet the various learning needs of students. It involves creating inclusive and flexible learning environments that cater to different learning styles, backgrounds and needs.

Through the utilisation of diverse education technologies such as online platforms, multimedia resources and adaptive learning systems, it ensures equitable access to quality education and support students from various cultural and socio-economic backgrounds.

B. Innovative Technologies



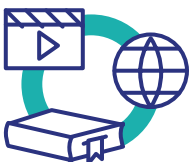
Innovative technologies encompass the use of advanced digital tools and methodologies such as the integration of online learning platforms, artificial intelligence, augmented and virtual reality and other digital innovation in teaching and learning processes. It aims to enhance the education experience by facilitating an interactive and personalise learning experience, making higher education more accessible and engaging.

C. Effective Education



Effective education is characterised by the achievement of desired learning outcomes through evidence-based teaching practices that is grounded in research and provides tailor-made solutions to address learners' needs. This involves implementing strategies that have been proven to enhance student engagement and comprehension as well as comprehensive assessment methods and continuous feedback mechanisms.

D. Adaptive Education



Adaptive education focuses on the flexibility of the higher educational system to meet the changing needs of students, learners and job market. This includes offering personalised learning experiences and flexible learning pathways.

Adaptive education leverages data-driven approaches to tailor education content and methods to individual learners needs, ensuring that students are prepared to thrive in a dynamic and uncertain future.



E. Life-long Learning

Life-long learning refers to the continuous, voluntary and self-motivated pursuit of knowledge throughout an individual's life for both personal and professional development. Emphasised on the necessity for current higher educational systems to support and encourage learning beyond schooling years.

It encompasses various forms of education, including formal education through degrees and certifications, non-formal education via short courses and informal education through self-study and online resources.

5.3 Strategic Recommendation

The future state framework for the digitalisation of higher education from 2026 to 2030 outlines a comprehensive and holistic approach to addressing the multifaceted challenges identified within the sector. This framework is designed to transform the higher education landscape through targeted initiatives focusing on critical areas that demand immediate and sustained attention.



Essentially, this framework articulates a comprehensive and strategic roadmap for a multi-dimensional transformation within the higher education sector, designed to secure long-term sustainability, operational efficiency and a culture of continuous innovation. It is anchored by 8 identified focus areas, each meticulously selected to address the core challenges and opportunities of the digital age. To ensure targeted and measurable progress across these areas, we have developed 5 overarching objectives. These objectives serve as strategic pillars, providing a clear and actionable pathway for achieving the desired transformational outcomes.

To ensure equitable and comprehensive attainment of the 5 strategic objectives across all focus areas, 3 key enablers with an overarching coverage across the higher education landscape have been identified: Digital Leadership, Skills Development and Data Infrastructure. These key enablers act as critical horizontal integrators, strategically permeating and reinforcing the identified strategic thrusts. Operationalised through 9 targeted initiatives, each are designed to reinforce and drive synergetic progress across the 6-core strategic thrust. The development of these six core strategic thrusts is predicated upon a structured, six-stage model of digital evolution as described in the previous section.

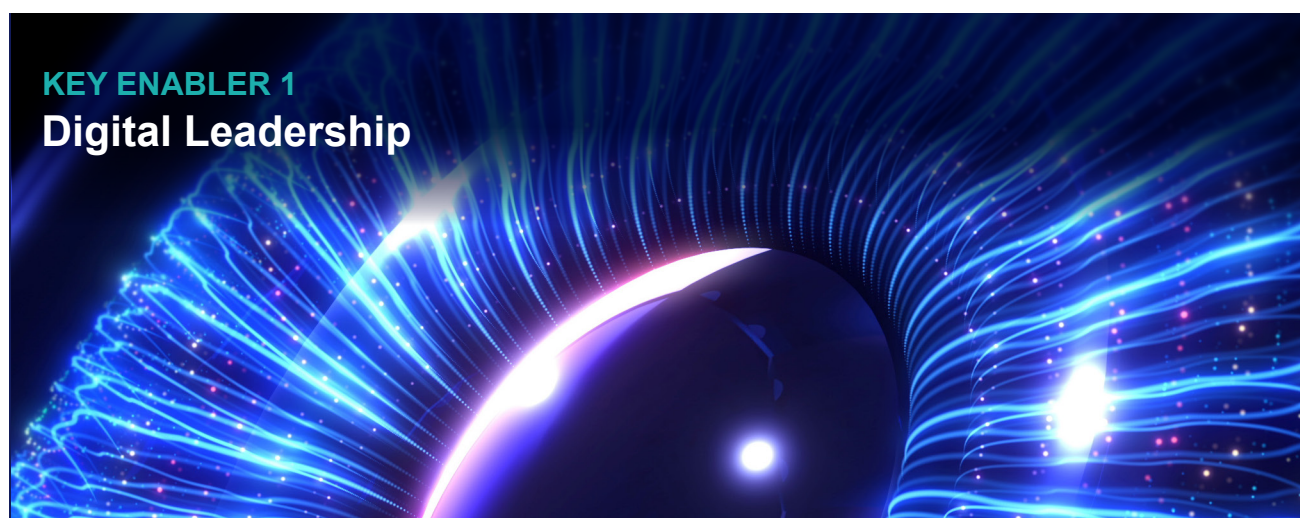


Within both identified key enablers and strategic thrusts, 26 initiatives have been formulated to address the identified challenges across the higher education landscape in efforts to achieve the desired future state. These curated initiatives offer comprehensive plans which are designed to address the specific challenges identified and leverage opportunities present within the higher education digital landscape, ensuring digitalisation efforts can be maximised with efficiency and effectiveness.

The initiatives under the key enablers and strategic thrusts have been strategically phased across short-term (2026–2027), medium-term (2026–2028/2029 and 2027–2030) and long-term (2026–2030, continuous) horizons. This ensures both immediate remediation of identified challenges and a continuous cycle of assessment and refinement within the evolving higher education landscape. Consequently, the policy functions as a dynamic document, facilitating a holistic and adaptive approach to digital transformation.

5.3.1 Key Enabler 1: Digital Leadership

The first of the three key enablers, Digital Leadership, is a foundational pillar in driving and sustaining the digital transformation of HEIs. It entails the establishment of strong, visionary governance structures that can provide strategic direction, ensure policy coherence and champion change across all levels of the higher education ecosystem. The primary objective of this enabler is to instil a culture of accountable and future-forward leadership that prioritises digitalisation as a long-term institutional strategy. Through a robust leadership framework, institutions are better positioned to orchestrate cross-functional digital efforts, monitor progress and ensure that national digital agendas are effectively localised and implemented at the institutional level. The rationale behind this enabler lies in the growing complexity of digital ecosystems within HEIs, which require centralised oversight, clear leadership roles and consistent evaluation mechanisms to maintain alignment with national priorities. As the digital landscape continues to evolve, effective leadership becomes the linchpin that binds strategy, execution and adaptability, laying the groundwork for a resilient and digitally mature higher education sector.



KEY ENABLER 1
Digital Leadership

Enabler 1.1	Establish a centralised digital governance unit (Digitalisation of Higher Education Committee) at MoHE level
Enabler 1.2	Establish and define roles of CDO offices in all public higher education institutions to ensure policy alignment and effective digitalisation
Enabler 1.3	Establish a structured biennial review framework for digitalisation of higher education policy and action plan

5.3.2 Key Enabler 2: Skills Development


The second of the three key enablers, Skills Development, represents a critical enabler in ensuring the success and sustainability of digital transformation in Malaysia's HEIs. This enabler focuses on building and enhancing the digital competencies and leadership capabilities of all stakeholders including students, educators, staff and policy implementers across higher education institutions and the Ministry of Higher Education. Its objective is to establish a digitally proficient ecosystem where all actors are equipped to operate effectively in an increasingly digitalised academic and administrative environment. The rationale stems from the rapid evolution of digital technologies, which necessitates continuous upskilling and reskilling to ensure that stakeholders remain agile, adaptable and competent in using emerging tools, platforms and systems. By fostering digital literacy, cultivating forward-looking leadership and institutionalising systematic capability assessments, HEIs can embed digital maturity at every level of operation and engagement, thereby supporting the wider transformation agenda.

KEY ENABLER 2 Skills Development

- Enabler 2.1** Development of a digital competency and leadership framework for Malaysian higher education educators and staff (HEI and MoHE)
- Enabler 2.2** Assess and strengthen digital competencies and leadership capabilities among HEI and MoHE educators and staff
- Enabler 2.3** Assess and address digital competency and accessibility gaps among higher education students
- Enabler 2.4** Accelerate adoption of micro-credentials which are components of accredited programmes of multiple HEIs across all public universities

5.3.3 Key Enabler 3: Data Infrastructure

The final key enabler, Data Infrastructure, serves as the backbone of an integrated, responsive and future-ready higher education ecosystem. This enabler is centred on establishing robust, scalable and secure data foundations that allow for seamless information collection, storage, processing and sharing across institutions and governing bodies. Its primary objective is to enable evidence-based policy formulation, operational efficiency and strategic agility by ensuring that accurate and up-to-date data is readily available to decision-makers at all levels. The rationale lies in the increasing reliance on data to drive innovation, monitor performance and assess institutional effectiveness in a digitalised education landscape. With rising demands for cross-institutional collaboration, standardised reporting and predictive analytics, a unified and resilient data infrastructure is imperative to ensure consistency, transparency and interoperability across the higher education sector.



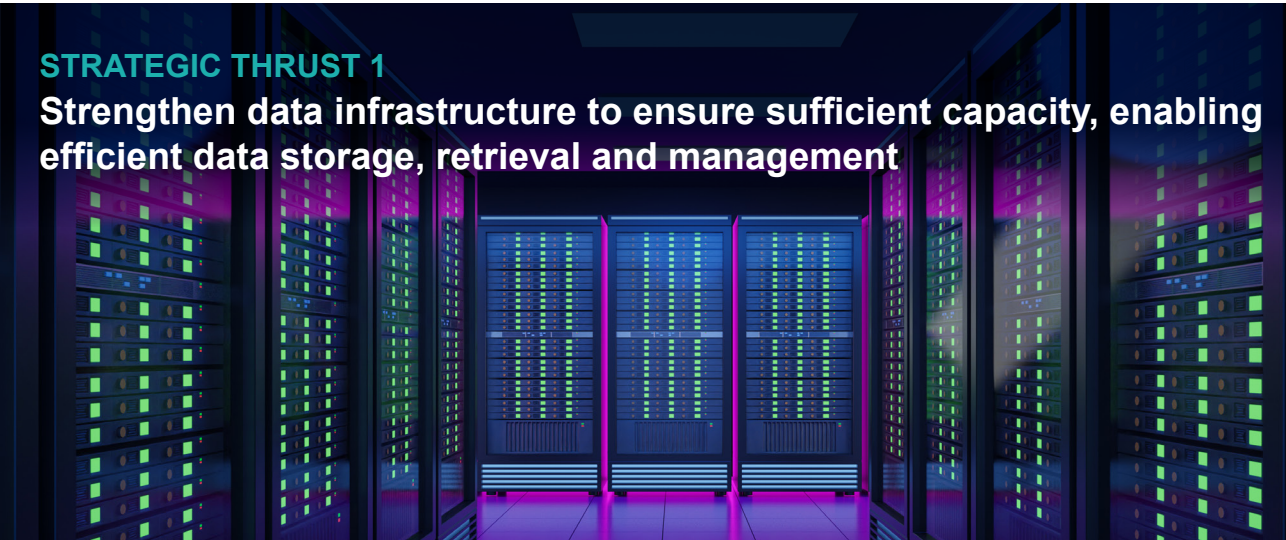
KEY ENabler 3
Data Infrastructure

Enabler 3.1 Establish a nationwide higher education data warehouse for seamless integration & decision-making

Enabler 3.2 Explore the development of a unified cloud storage system for seamless data sharing across all higher education institutions

5.3.4 Strategic Thrust 1: Strengthen data infrastructure to ensure sufficient capacity, enabling efficient data storage, retrieval and management

Thrust 1 represents the first stage of digitalisation in higher education which begins with the foundational process of digitisation and conversion. This thrust is focused on transforming traditional, manual and analogue information systems into a structured and accessible digital format. At its core, the objective is to enable institutions to build resilient digital ecosystems by ensuring that data assets, often scattered or paper-based, are systematically digitised, securely stored and efficiently managed. Establishing a robust backend infrastructure is critical not only to facilitate day-to-day administrative and academic functions, but also to lay the groundwork for more complex digital applications in the future. This thrust recognises that without the digital availability and reliability of institutional data, subsequent digitalisation efforts will be constrained. Accordingly, this stage necessitates foundational improvements in storage capacity, digitisation processes and institutional readiness, which collectively position higher education institutions for long-term, data-driven transformation.



STRATEGIC THRUST 1
Strengthen data infrastructure to ensure sufficient capacity, enabling efficient data storage, retrieval and management

Initiative 1.1	Strengthen and expand institutional digital storage infrastructure for scalable data management
Initiative 1.2	Accelerate the digitisation of institutional records for enhanced data management

5.3.5 Strategic Thrust 2: Implement systems and processes enabling task automation with minimal human intervention, while facilitating user adaptation to digital platforms

Thrust 2 represents the second stage of digitalisation which focuses on automation and adoption, marking a pivotal shift from manual data handling to system-driven processes that streamline institutional operations. This thrust is aimed at embedding automation into routine administrative and academic functions to enhance productivity, reduce human error and ensure operational continuity. The objective is twofold: to enable institutions to leverage digital infrastructure for process efficiency and to foster user familiarity and adaptation to new digital platforms. At this stage, the integration of hardware and software capable of automating repetitive tasks is essential, as is the cultivation of a digital-savvy culture among faculty, staff and students. By embedding systems such as learning dashboards, human resource management platforms and academic portals into institutional workflows, HEIs can begin to realise the benefits of speed, scalability and data integrity. As automation becomes more embedded, institutions are better positioned to transition towards more advanced stages of digital maturity, driven by reliable systems and a digitally empowered community.

STRATEGIC THRUST 2

Implement systems and processes enabling task automation with minimal human intervention, while facilitating user adaptation to digital platforms

Initiative 2.1

Accelerate deployment of automation-ready infrastructure and software solutions to enhance digital transformation in HEIs

Initiative 2.2

Expand and accelerate full automation of institutional data management across HEIs

5.3.6 Strategic Thrust 3: Leverage communication tools and virtual services to enhance connectivity and collaboration among stakeholders

Thrust 3 is anchored in the stage of interaction and collaboration, emphasising the seamless integration of communication tools and virtual services to foster deeper engagement across the higher education ecosystem. This stage of digitalisation focuses on strengthening digital connectivity between faculty, students and administrative bodies, enabling real-time collaboration regardless of physical location. Its objective is to institutionalise a culture of digital interaction that supports research, pedagogy and administration through virtual means. By promoting platforms that enable hybrid learning environments, interactive virtual classrooms and remote access to key institutional records, this thrust aims to create a resilient digital infrastructure that enhances academic delivery and research outcomes. Moreover, it recognises the importance of proactive disaster preparedness and inclusive data accessibility to maintain uninterrupted learning and operations during emergencies. As higher education institutions increasingly rely on digital tools for day-to-day functions, advancing this stage is crucial to ensure equitable, efficient and inclusive collaboration within and beyond campus borders.


STRATEGIC THRUST 3

Leverage communication tools and virtual services to enhance connectivity and collaboration among stakeholders

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|-----------------------|---|
| Initiative 3.1 | Enhance cross-departmental and remote accessibility of institutional records |
| Initiative 3.2 | Co-share bulk subscription and access to primary academic journals and literature platforms across HEIs to enhance research capabilities |
| Initiative 3.3 | Establish a resource sharing ecosystem for all public institutions to enhance research collaboration and access |
| Initiative 3.4 | Identify and promote interactive learning platforms that cultivates 2-way engagements in HE learning environments (i.e. gamification solutions, immersive learning experience), promoting digital pedagogy, inclusivity and digital accessibility |
| Initiative 3.5 | Design, develop and implement a business continuity plan (BCP) across HEIs to mitigate potential impact from cybersecurity incidents |

5.3.7 Strategic Thrust 4: Utilise data analytics to enrich information and provide actionable insights for informed and effective decision-making

Thrust 4 focuses on elevating higher education institutions' capacity to harness data analytics for more informed, timely and strategic decision-making. Representing the "Data-Driven Analysis" stage, this thrust is rooted in the belief that digital maturity is best achieved when institutions are empowered to translate raw data into meaningful insights that can guide policy formulation, operational improvements, academic planning and research excellence. The core objective is to institutionalise analytical thinking by embedding the tools, talent and infrastructure needed to support advanced data usage across all academic and administrative functions. This includes ensuring the presence of backend systems, sufficient computing hardware and dedicated personnel who are capable of analysing data and producing actionable outcomes. By promoting access to advanced statistical tools, optimising software licensing models and strengthening digital research ecosystems, this thrust aims to create a data-literate academic community that values evidence-based decisions. A future-ready higher education ecosystem must be underpinned by reliable data flows and robust analytical capabilities that foster transparency, agility and continuous improvement.



STRATEGIC THRUST 4
Utilise data analytics to enrich information and provide actionable insights for informed and effective decision-making

Initiative 4.1	Strengthen institutional access to statistical analysis tools (Turnitin, web of science, SPSS) for research universities (RU)
Initiative 4.2	Establish a co-shared statistical analysis software licensing model for HEIs
Initiative 4.3	Establish a dedicated digitalisation research domain in MoHE's platforms to enhance research funding and collaboration (e.g., MyGrants and MRUN)

5.3.8 Strategic Thrust 5: Enable seamless big data transactions and management through advanced connectivity solutions

Thrust 5 underscores the critical need for robust, high-speed connectivity as the foundation of a fully digitalised higher education ecosystem. This thrust aims to strengthen the digital backbone of HEIs by enabling seamless, secure and scalable data transactions and network access through advanced technologies. The overarching objective is to ensure that institutional connectivity can support increasingly data-intensive operations, ranging from cloud computing and big data analytics to AI-enabled platforms, without disruption or degradation in performance. Equally, universal access must be guaranteed to bridge gaps in digital equity and inclusion for students and staff. This stage also involves ensuring that campus-wide hardware infrastructure is aligned with the latest network specifications to maximise data flow, system uptime and institutional responsiveness. Through comprehensive assessments of existing bandwidth and hardware capabilities and targeted upgrades, this thrust seeks to future-proof Malaysia’s higher education network infrastructure, ensuring HEIs can support and sustain advanced digital learning, research and administration well into the next decade.



STRATEGIC THRUST 5
Leverage communication tools and virtual services to enhance connectivity and collaboration among stakeholders

Initiative 5.1	HEIs to undertake a comprehensive assessment on network coverage and capacity assessment within the institutions in collaboration with ISPs
Initiative 5.2	Upgrade and standardise network-optimised hardware to enhance digital connectivity across HEIs

5.3.9 Strategic Thrust 6: Foster an interconnected ecosystem through APIs and leverage AI to enhance data flow, cross-platform communication and predictive analytics

Thrust 6 highlights the future need to transition towards an integrated and innovation-driven digital higher education ecosystem that is interconnected, intelligent and adaptive. This thrust focuses on creating seamless interoperability between institutional systems, enabling efficient data flow through Application Programming Interfaces (APIs) and embedding Artificial Intelligence (AI) to support predictive analytics and smart decision-making. The objective is to promote a higher education landscape that not only adopts digital tools but also integrates them holistically to allow real-time communication across platforms, better anticipate institutional needs and enhance strategic outcomes. This includes equipping academic and administrative staff with the technical capacity to manage AI systems, embedding AI-driven solutions into teaching and learning and ensuring compliance with evolving ethical and governance standards. Institutions must also align policies and guidelines with global developments in AI to safeguard responsible innovation. By fostering a future-ready digital ecosystem, this thrust positions Malaysia's higher education institutions at the forefront of technological innovation and sustainable digital transformation.

STRATEGIC THRUST 6

Utilise data analytics to enrich information and provide actionable insights for informed and effective decision-making

Initiative 6.1

Integrate AI & emerging technology enabled decision-making tools to enhance predictive analytics and strategic insights in HEIs

Initiative 6.2

Review and update existing guidelines, plans and strategies under MoHE to align with emerging AI trends and ethical standards

Initiative 6.3

Implement a standardised e-assessment policy mandating secure proctoring and AI-driven plagiarism detection to ensure academic integrity



6. CONCLUSION



The Digitalisation of Higher Education 2025–2030 Policy articulates a forward-looking strategic direction designed to redefine Malaysia’s higher education ecosystem in the next global shift in education. Central to this policy is the enduring vision of cultivating an effective, adaptive, lifelong learning ecosystem in which digital technologies evolve from adjunct tools into foundational enablers of systemic innovation. Built upon eight interconnected focus areas, the policy presents a unified roadmap designed to enhance institutional resilience, foster sustained innovation and reinforce Malaysia’s position in the global higher education landscape.

Through its objectives, the policy strengthens governance and oversight to ensure alignment, coherence and accountability across all tiers of higher education. It emphasises the fostering of digitally fluent generations, embedding digital tools seamlessly into all aspects of academia. Equally, it foregrounds the critical role of robust digital infrastructure and infostructure, recognising them as essential underpinnings for scalable, sustainable change. By promoting digital-driven research and innovation and by cultivating a pervasive digital mindset, the blueprint aspires to establish a culture of continuous improvement, adaptability and inclusion within higher education.

Ultimately, this policy is beyond a technical roadmap, it reflects Malaysia’s resolve to transform its higher education sector into a digitally empowered ecosystem capable of not merely responding to global disruptions but proactively shaping future trajectories. Its successful implementation will enable higher education to remain a pillar of socioeconomic development, equipping graduates to thrive in an evolving digital world and strengthening the institutions that anchor Malaysia’s global competitiveness. Over time, the policy will yield more agile institutions, more empowered learners and a nation confidently positioned to excel in an increasingly digital future.

7. ACKNOWLEDGEMENT

MoHE extends its deepest appreciation to all stakeholders who have contributed to the development of this policy. This publication is the result of extensive collaboration and we recognise the valuable insights, expertise and feedback provided by individuals and organisations, whether mentioned or not, for their crucial roles in shaping the Digitalisation of Higher Education Policy 2025-2030. We would also like to express our gratitude to the various divisions within the Ministry as well as partner agencies and organisations, for their unwavering support, cooperation and commitment that have served as key drivers of this initiative. Their collective contributions have enriched this policy, ensuring its effectiveness and impact in the years to come.

