



MINISTRY OF
EDUCATION
MALAYSIA

Malaysia Education Blueprint 2015-2025

(Higher Education)



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Malaysia Education Blueprint 2015 - 2025

(Higher Education)

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**MALAYSIA
EDUCATION
BLUEPRINT
2015-2025
(HIGHER EDUCATION)**



Education has been key to Malaysia's rapid development. It has provided our citizens with the knowledge, skills, and competencies that have propelled our growth and, with it, our prosperity. However, if we want to achieve our goal of becoming a developed nation by 2020, we must increase both access to and the quality of higher education in Malaysia.



Dato' Sri Mohd Najib bin
Tun Haji Abdul Razak

Prime Minister of Malaysia

Foreword

We have made significant progress in higher education, particularly since the Government decided to establish a separate Ministry of Higher Education in 2004. Higher education enrolment has increased by 70% to 1.2 million students over the last 10 years. The growth rate of research output and quality has been one of the highest in the world, and Malaysian institutions are ranked strongly amongst our Asian peers. Malaysia is also now a top 10 destination for international students.

Investing in Malaysia's youth is an imperative. Malaysia must adapt in order to thrive in an increasingly competitive global economic environment. This includes the transformation of Malaysia's higher education system. The jobs of tomorrow will require a greater emphasis on STEM (science, technology, engineering and mathematics) and proficiency in English is required to support higher-income jobs and raise competitiveness.

The commercialisation of ideas and industry research partnerships to propel innovation is a necessity. In addition to that, a sustainable funding model with clear outcomes, incentives, and support for those who need it most is critical.

That is why we have adopted the Malaysia Education Blueprint 2015-2025 (Higher Education), which will transform Malaysia's higher education system to meet these new challenges. I would like to express my appreciation to the Ministry of Education, the leaders of all higher learning institutions, and all those who have contributed to its development. It is a clear, compelling, and ambitious plan which will guide Malaysia through to 2025 and beyond.

The Government cannot transform the higher education sector alone. That is why the private sector will be encouraged to provide faculty and design curricula that are tightly linked to the required job skills, to co-fund research, and to have off-take agreements for graduates. The Government will establish frameworks to make it easy for the private sector to contribute, support the process with a sustainable financial model, and provide autonomy, accountability, and guidance to unlock the tremendous potential within our students and our higher learning institutions.



The Government is committed to transforming the education system.

Our goal, and the purpose of the education system, is to ensure that Malaysian youth develop holistically and have the necessary values, knowledge, and skills to succeed in an increasingly competitive and uncertain world. We are building the next generation of leaders that will take Malaysia to even greater heights.

The revamp of education in Malaysia is underway. This Blueprint follows the Malaysia Education Blueprint 2013-2025 (Preschool to Post-Secondary Education) that was launched in September 2013 and provides a consistent and seamless end-to-end roadmap for our nation's youth. Education and development will begin from their early years to tap and unleash maximum potential such that they emerge from higher education with a balance of *akhlak* and *ilmu*, able to take on and generate high-income jobs that in turn make high-impact contributions to Malaysia and the world.

The Government has set ambitious - but achievable - aspirations to transform the higher education system. These aspirations constitute two aspects: those for the education system as a whole, focusing on access, quality, equity, unity, and efficiency; and those for individual students, covering the six primary attributes - ethics and spirituality, leadership skills, national identity, language proficiency, thinking skills, and knowledge.

10 Shifts underpin this Blueprint. The first four focus on outcomes for key stakeholders in the higher education systems, including students in academic and TVET pathways, the academic community, as well as Malaysians participating in lifelong learning. The other six focus on enablers for the higher education ecosystem, covering critical components such as funding, governance, innovation, internationalization, online learning, and delivery.

This Blueprint in itself is insufficient. Implementation is what matters most. The leadership of the Ministry of Education and I are personally committed to delivering the initiatives contained here, while evolving and adding new ones over time. We are strengthening our resources and will internally review progress regularly. Annual reports will also be made public.

I thank the leadership and staff of the higher learning institutions, private sector partners, parents, and staff within the Ministry for the progress of the higher education system to date and seek their continued commitment in the transformation that lies ahead.

Tan Sri Dato' Haji Muhyiddin bin
Haji Mohd Yassin

Deputy Prime Minister and
Minister of Education Malaysia



A student-centered education focus lies at the heart of the Malaysia Education Blueprint 2015-2025 (Higher Education).

Through the 10 Shifts identified, the Ministry aspires to produce balanced and holistic graduates with entrepreneurial mindsets, nurture 'job creators' rather than just 'job seekers', place technical and vocational education and training (TVET) programmes on par with traditional academic offerings, and make lifelong learning part of the nation's culture.

In realising this, technologies and innovations such as Massive Open Online Courses (MOOCs) and blended learning will be actively pursued. This will enable greater dynamism to and personalisation of students' learning experience. The Ministry will also encourage greater industry participation at teaching, research and commercialisation levels, while harmonising cooperative networks between public, private, and international higher learning institutions.

Structurally, there will be a transition from the current centralised governance system to a model based on earned autonomy. Importantly, this will entail reducing the reliance on government resources and getting stakeholders to play a more dynamic role in generating funds and diversifying financial resources to ensure the financial sustainability of the higher education system.

The Government is committed. We aspire to create a higher education system that ranks among the world's leading higher education systems and enables Malaysia to compete globally. Achieving this will only be possible with a strong focus on implementation and on the concerted collaborative efforts of all parties – the Ministry, higher learning institutions, industry, the public and private sectors, and students. Collectively, our aspirations can become a reality.

With strong higher learning institutions, capable research and academic staff, and a supportive ecosystem, we already have pride for our higher education system. With this Blueprint, we can take another step forward, and it is my vision for us to continue 'Soaring Upwards'.

Dato' Seri Idris Jusoh

Minister of Education II

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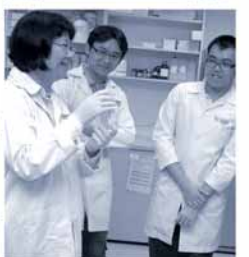
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Executive Summary

The Malaysian higher education system has grown from strength to strength over the past few decades. Over the last ten years alone, the system has made significant gains in student enrolment, risen in global recognition on key dimensions such as research publications, patents, and institutional quality, as well as become a top destination for international students. These achievements are a testament to the drive and innovation of the Malaysian academic community, the support of the private sector, as well as the deep investment the Government has made.

Nonetheless, the Ministry of Education (the Ministry) recognises that the system will need to keep evolving to stay abreast with, if not ahead of, global trends. For example, disruptive technologies such as advanced robotics, the Internet of Things, and the automation of knowledge work are expected to dramatically reshape the business and social landscape from what it is today. Preparing Malaysian youth to thrive in this complex and ever-changing future will require an equally fundamental transformation of how the higher education system and higher learning institutions (HLIs) currently operate.

In 2013, the Ministry thus began developing the Malaysia Education Blueprint 2015–2025 (Higher Education) or the MEB (HE). Over the course of two years, the Ministry drew on multiple sources of input, from Malaysian and international education experts, to leaders of Malaysian HLIs and members of the public. The end product is a blueprint that was developed by Malaysians, for Malaysians, and that will equip Malaysia for the final leg of its journey towards becoming a high-income nation.

Development approach

The MEB (HE) was developed through a collaborative and consultative process driven by leading Malaysian thinkers with over 100 stakeholder groups providing input and thousands of individuals engaged. The stakeholders engaged encompassed Malaysian and global education experts, university administrators, university Boards, the academic community, unions and associations, Ministry staff, industry bodies and employers, relevant agencies, parents, students, and members of the public.

The development process started with a review of the National Higher Education Strategic Plan, or *Pelan Strategik Pengajian Tinggi Negara* (PSPTN). There were three distinct phases:

- PHASE 1 - Review of PSPTN (February 2013 to February 2014):** The Ministry started with a comprehensive review of current performance and progress on PSPTN to establish a robust fact base on its strengths and weaknesses.
- PHASE 2 - Conceptualisation of the 10 Shifts (March 2014 to September 2014):** Based on the review team's findings and in consultation with stakeholders, the Ministry identified 10 Shifts that would be needed to take the Malaysian higher education system to the next level. The Ministry also carefully aligned these Shifts with existing national plans, most notably the Malaysia Education Blueprint 2013-2025 (Preschool to Post-Secondary Education) or the MEB.
- PHASE 3 - Finalisation of the MEB (HE) (October 2014 to March 2015):** The details of these 10 Shifts were finalised following another extensive round of public consultation and guidance from the Cabinet.

Engaged stakeholders

PHASE 1	2,300+	survey responses
	2,300+	townhall and focus group participants
	16	international advisors and experts
	14	Malaysian expert advisors
	1	national survey
	18	townhalls
	9	focus groups

PHASE 2	250+	stakeholder representatives
	5+	workshops

PHASE 3	90+	HLI Chairmen, Vice-Chancellors, and Chief Executives
	4,500+	HLI staff
	40	industry skills councils and professional bodies
	25+	members of national education councils
	50+	senior thought leaders and professors
	140	Parent-Teacher Associations across school districts
	20+	unions and associations
	250+	students and alumni
	500+	Ministry staff
	30+	engagement sessions

Continuous **online** engagement

MEB (HE) developers

35	PSPTN review team members
14	chapter writing teams
20	lead authors
42	writing team members

External research



In total, more than 10,500 people were engaged over two years.

Current performance

The Ministry has made significant progress in fulfilling its core aspirations for higher education, most notably in broadening access and expanding overall system and institutional quality.

Access to higher education has increased substantially

Malaysia has reached a gross higher education enrolment¹ rate of 48% in 2012. This represents a 70% increase in enrolment over the last decade to reach 1.2 million students in public and private HLIs comprising public universities, polytechnics, community colleges, private universities, private university colleges, and private colleges. Between 1990 and 2010, there has been a sixfold increase in Bachelor degree enrolment and a tenfold increase in Masters and PhD enrolment. With this increase, Malaysia now ranks third² among ASEAN countries in Masters and PhD enrolment, behind Singapore and Thailand.

10 YEARS

Substantial Increase in
ACCESS



70%

increase in total higher education enrolment (2004 to 2014) to 1.2 million students



6x

increase in Bachelor degree enrolment (1990 to 2010)



10x

increase in Masters and PhD enrolment (1990 to 2010) – now ranked 3rd in ASEAN behind Singapore, Thailand

Research output and quality has expanded rapidly

The number of research articles published by Malaysian universities increased more than threefold between 2007 and 2012, the highest increase in the world, and the number of citations grew fourfold from 2005 to 2012. The five Malaysian Research Universities (MRUs) alone contributed 70% of these publications. Moreover, from 2007 to 2011, the number of patents filed by Malaysia's universities grew 11% each year, placing Malaysia 28th in the world for new patents during that period. Malaysian public universities have also intensified their role as solution providers for industry and community, generating RM1.25 billion in revenues from 2007 to 2012 from research and consulting services.

5 YEARS

Rapid improvements in
RESEARCH



3.1x

increase in publications from 2007-2012, highest in the world



4x

increase in number of citations from 2005 to 2012



70%

of publications from 2003-12 contributed by 5 MRUs



11%

yearly growth in number of patents from 2007 to 2011 – Malaysia was 28th in the world in 2011



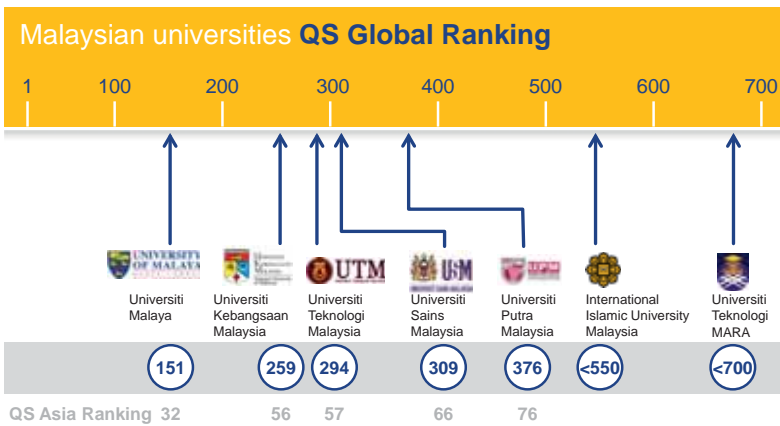
RM 1.25 billion

revenues generated from MRUs as solution provider to industries, agencies, NGOs (2007-2012)

¹ Tertiary Education refers to programmes with a qualification level of Diploma and above or International Standard Classification of Education (ISCED) level 5–Diploma, Advanced Diploma, Postgraduate Diploma, Professional Certificate, Bachelors, Masters, and PhD programmes. Higher education is defined as ISCED level 3 and above, and thus encompasses tertiary-level programmes as well as STPM, Matriculation, Foundation, Pre-diploma, Pre-University, and Post-Secondary non-tertiary programmes.

² UNESCO

EXHIBIT 1
Overall rankings of Malaysian universities



Performance on global rankings is strong in Asia, with niche areas of excellence globally

Five of Malaysia's universities currently rank among Asia's top 100 universities and *Universiti Malaya* is included in the top 200 globally (Exhibit 1). *Universiti Malaya* is also the leading university among institutions in Organisation Of Islamic Cooperation(OIC) countries. Within specific disciplines, Malaysia's universities are already ranked in the top 200 globally. In 2014, for example, *Universiti Sains Malaysia* was ranked 28th in the QS World University Rankings in the subject area of environmental sciences. 11 other HLI's had at least one department placed in the top 100 globally (Exhibit 2).

The Government is deeply committed to higher education as evidenced by its investment level relative to peers

As with the basic education sector, the Government is deeply committed to higher education, and the annual total expenditure on higher education is equivalent to 7.7% of annual Government expenditure (where the Ministry's expenditure on higher education alone is 5.5% of annual Government expenditure). This is, according to UNESCO benchmarking, the highest among Malaysia's peers – developed Asian economies (Hong Kong, Singapore, South Korea, Japan), ASEAN neighbours (Indonesia, Thailand, Singapore), and countries with comparable GDP per capita (Chile, Mexico).

EXHIBIT 2
Malaysian universities ranked in top 200 in several subject areas

Subject Area	Top 151-200	Top 101-150	Top 51-100	Top 50
Modern Languages	IUM		UM	
Computer Science & Information Systems	UTM UPM		UM USM	
Engineering - Chemical	UPM UTP	UTM	UM USM	
Engineering - Civil & Structural	UM	UKM UPM UTM	USM	
Engineering - Electrical & Electronics		UKM UPM USM UTM	UM	
Engineering – Mechanical, A&M ¹		UKM UPM UTM	UM USM	
Agriculture & Forestry			UPM	
Medicine	UM			
Pharmacy & Pharmacology	UKM UPM	UM	USM	
Chemistry		USM		
Environmental Sciences	UM	UPM		USM=28
Geography	UKM UM			
Materials Science	USM UM			
Mathematics		UKM		
Communication & Media Studies	UPM	USM		
Economics & Econometrics	UKM USM UM	UPM		
Education		USM	UPM UKM UM	
Law		UKM UM		
Politics & International Studies			UKM	

- Top 50 in 1 subject area
- 51-100 in 10 subject areas
- 101-150 in 5 subject areas
- 151-200 in 3 subject areas

¹ Aeronautical & Manufacturing
SOURCE: QS World University Rankings by Subjects 2014

EXHIBIT 3

Malaysia's ranking in the U21 report

Rank out of 50 countries		1	2	3	4	
		RESOURCES	ENVIRONMENT	CONNECTIVITY	OUTPUT	OVERALL
Malaysia		12	26	35	44	28
Asian Neighbours	Singapore	9	11	5	19	10
	Thailand	47	30	30	47	42
	Indonesia	50	37	25	50	48
	Hong Kong	19	4	7	23	15
	South Korea	18	39	32	18	21
Global Benchmarks	USA	4	3	15	1	1
	UK	21	16	3	2	8
	Australia	16	8	8	6	9
TYPE OF METRICS USED		Government expenditure, investments, R&D	Qualitative assessment of policy and regulatory environment	<ul style="list-style-type: none"> Collaboration globally and with industry International student enrolment 	<ul style="list-style-type: none"> Research output Institution rankings Enrolment Employability 	Average score of the four categories

SOURCE: Annual report by Universitas 21, a global network of research universities for the 21st century with 26 members that enroll over 1.3 million students and employ over 220,000 staff and faculty. The U21 Index compares national higher education systems for 50 countries

Malaysia's overall performance is consistent with Malaysia's income level

In 2014, the Universitas 21 Report ranked Malaysia's higher education system 28th out of the 50 countries it assessed. The Universitas 21 Report ranks higher education in 50 countries across four categories: resources, environment, connectivity and output. However, in view of Malaysia's significant investments in higher education (Malaysia is ranked 12 out of 50 in terms of resources invested, but 44 out of 50 in terms of outputs), the Ministry believes there is opportunity to further improve the returns on this investment (see Exhibit 3).

Despite these significant gains, challenges and concerns remain

Employers report that graduates lack the critical thinking and communication skills, and the language proficiency (especially in English) that are essential for success in the 21st century. There are opportunities for more productive collaboration between academia and industry, particularly with regard to research, development, and commercialisation. Additionally, budgetary constraints together with the rising costs of higher education require improvements in productivity and efficiency of the higher education system as well as of HLIs in order to enhance the overall financial sustainability of the system.

Box E-1

University rankings

Many different types of world university rankings exist. The most common ones are the QS World University Rankings, the Times Higher Education World University Rankings, and the Shanghai Academic Ranking of World Universities. These rankings are generally weighted heavily towards research output (for example, citations per faculty, number of papers in top journals). The MEB (HE) uses the QS rankings for reference purposes as it is the oldest global ranking and a ranking that provides a broader perspective, thereby providing the Ministry with a better sense of the system's trajectory.

Rankings can serve as a useful yardstick and benchmark as to where an education system's strengths lie, and how it can improve. However, they should not be seen as the definitive measure of quality. As mentioned above, current international rankings are weighted heavily towards research outcomes. This means that critical factors such as the quality of teaching and learning at the institution or its ability to support disadvantaged students are not captured. Accordingly, world university rankings are but one of many measures the Ministry monitors as it works with HLIs to raise student and institutional outcomes.

System Aspirations

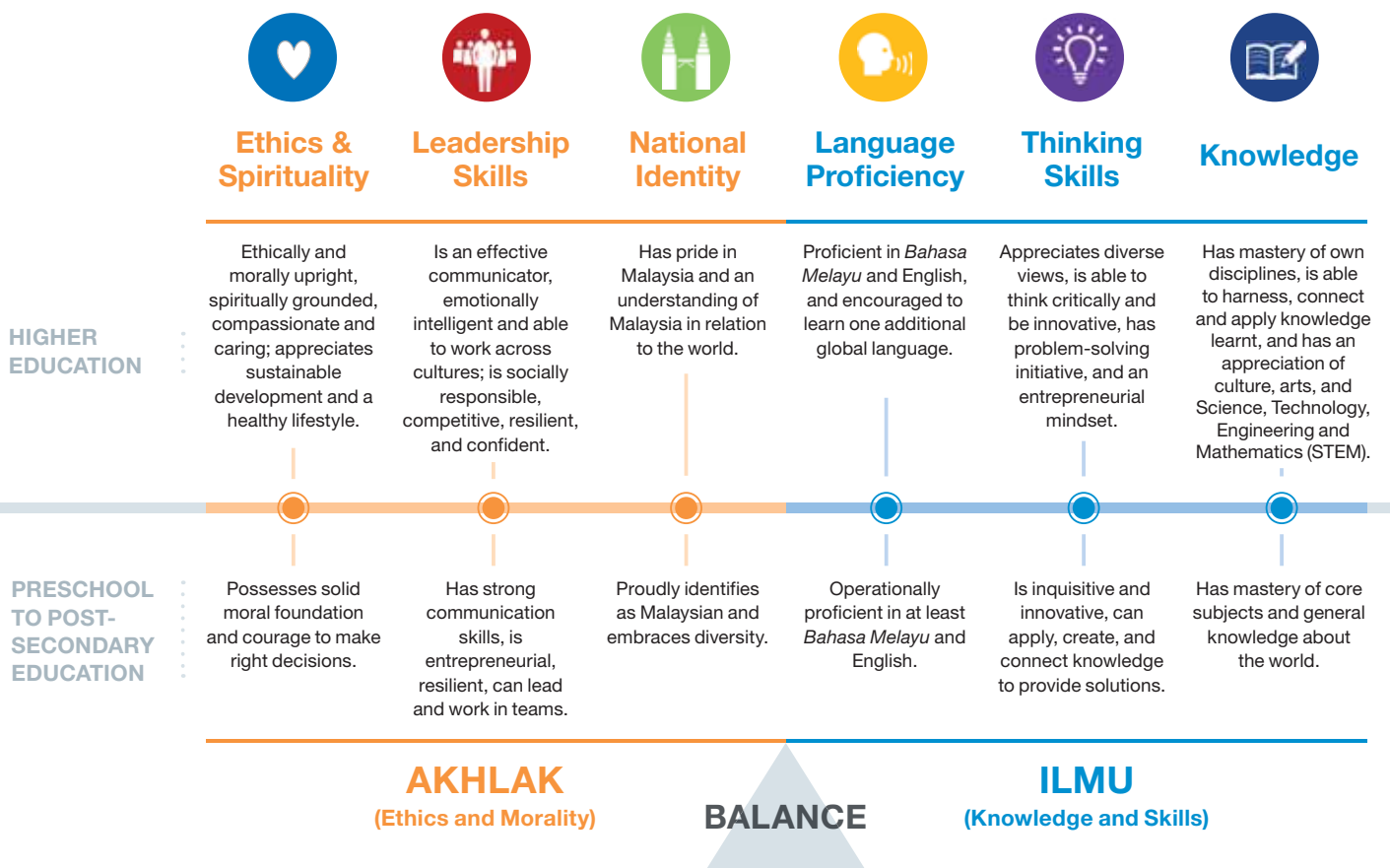
The MEB (HE) will therefore **build on the five aspirations** set out in the MEB of **access, quality, equity, unity, and efficiency**.

	ACCESS	QUALITY	EQUITY	UNITY	EFFICIENCY
HIGHER EDUCATION	<p>By 2025, the Ministry aspires to increase access to and enrolment in higher education. If Malaysia were to successfully improve tertiary enrolment rates from 36% currently to 53% (and higher education enrolment from 48% to 70%), this will bring Malaysia on par with the highest enrolment levels in ASEAN today. This growth scenario will require an additional 1.1 million places by 2025, mainly through growth in technical and vocational education and training (TVET), private HLIs and online learning. The exact pace and nature of the expansion plan will be determined in close collaboration with industry to ensure supply matches demand.</p>	<p>The Ministry's aspiration covers three aspects: quality of graduates, quality of institutions, and quality of the overall system. On quality of graduates, the Ministry aspires to increase the current 75% graduate employability rate to more than 80% in 2025. On quality of institutions, only one of Malaysia's universities is currently in the Top 200 QS global rankings. By 2025, the Ministry aims to place one university in Asia's Top 25, two in the Global Top 100, and four in the Global Top 200. Finally, on quality of the overall system, the Ministry aspires to raise its U21 ranking for research output from 36th out of 50 countries to the top 25, and to increase the number of international students in HLIs from 108,000 today to 250,000 students in HLIs and schools by 2025.</p>	<p>Although there is currently a lack of comprehensive data to effectively assess equity in the system, the Ministry aims to ensure that all Malaysians have the opportunity to fulfil their potential regardless of background. For example, the Ministry is committed to improving the enrolment rate and completion rate of students from socio-economically disadvantaged backgrounds and communities.</p>	<p>Similarly, while there is no widely accepted method yet to measure unity, the Ministry is committed to ensuring that enrolment in HLIs reflects the mix of Malaysia's ethnicities. The aim is to create an education system that provides students with shared values, shared experiences, and common aspirations by embracing diversity.</p>	<p>In terms of efficiency, the Ministry aims to maximise the return on investment in higher education and to maintain the current levels of Government expenditure per student across public institutions. Malaysia also aspires to rise from 44th out of the 50 countries in the U21 output ranking that covers research, enrolment, and employability to be in the top 25 by 2025.</p>
PRESCHOOL TO POST-SECONDARY EDUCATION	<p>100% ENROLMENT</p> <p>Across all levels from preschool to upper secondary by 2020</p>	<p>TOP 3rd OF COUNTRIES</p> <p>In international assessments such as PISA and TIMSS in 15 years</p>	<p>50% REDUCTION</p> <p>In achievement gaps (urban-rural, socio-economic, and gender) by 2020</p>	<p>SHARED VALUES AND EXPERIENCES</p> <p>An education system that gives children shared values and experiences by embracing diversity</p>	<p>MAXIMISES STUDENT OUTCOMES</p> <p>A system which maximises student outcomes within current budget</p>

Student Aspirations

The Ministry of Education will continue to use the National Education Philosophy's vision of a balanced education as its foundation for individual student aspirations. The preschool, primary, secondary, and higher education systems share a vision of what the outcome of a Malaysian education should look like, and what that means for individual students. The Ministry emphasises the balance between

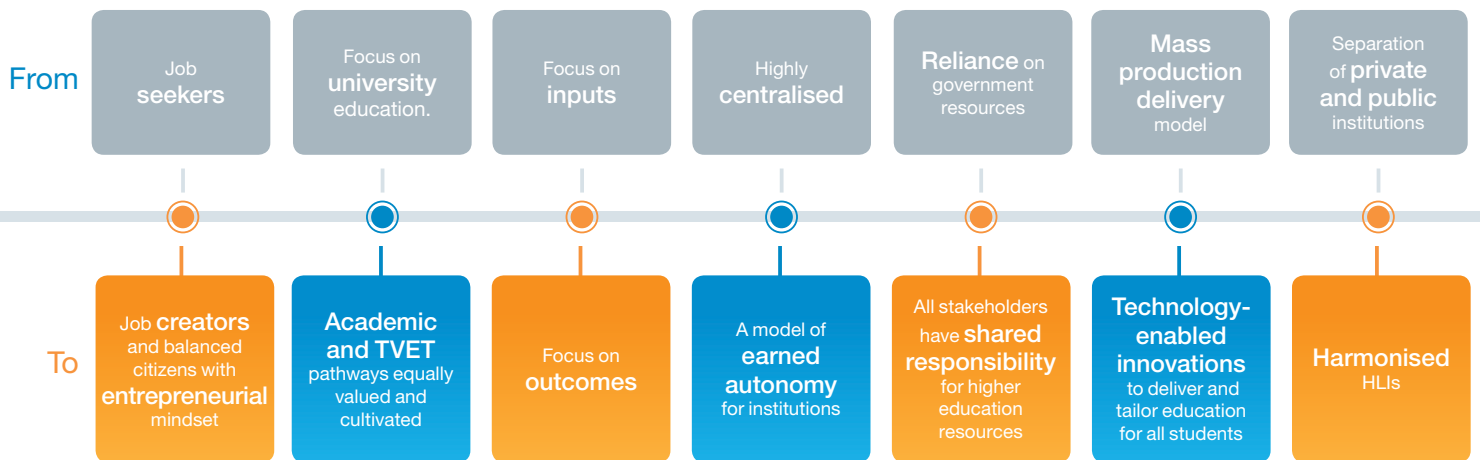
both knowledge and skills (*ilmu*) as well as ethics and morality (*akhlak*). The student aspirations in the MEB are built around six primary attributes: ethics and spirituality, leadership skills, national identity, language proficiency, thinking skills, and knowledge. These are the same six attributes for students that the higher education system is anchored on.



The new higher education system

Accordingly, the Ministry's overriding aspiration is to create a higher education system that ranks among the world's leading education systems and that enables Malaysia to compete in the global economy. The MEB (HE) builds on the system's achievements to date and proposes major changes in the way the Ministry and system will operate in order to realise this goal (see Exhibit 6). Specifically, the Ministry aspires to:

- Instil an entrepreneurial mindset throughout Malaysia's higher education system and create a system that produces graduates with a drive to create jobs, rather than to only seek jobs;
- Construct a system that is less focused on traditional, academic pathways and that places an equal value on much-needed technical and vocational training;
- Focus on outcomes over inputs and to actively pursue technologies and innovations that address students' needs and enable greater personalisation of the learning experience;
- Harmonise how private and public institutions are regulated, and to transition from the current, highly-centralised governance system for HLIs to a model based on earned autonomy within the regulatory framework; and
- Ensure the financial sustainability of the higher education system by reducing HLIs reliance on government resources and asking all stakeholders that directly benefit from it to contribute as well.



The MEB (HE) will generate major shifts in the way the higher education system operates

What would it take for higher education enrolment to be among the highest in ASEAN?

The Ministry aims to expand higher education enrolment over the course of the next decade. The exact nature of the expansion in terms of both quantity of seats and profile of programmes will be determined in close collaboration with industry to ensure that supply matches demand.

2012
Current level of 36% tertiary enrolment
(1.4M students³)
(48% higher education)

Private HLIs



Public Universities



TVET Institutions



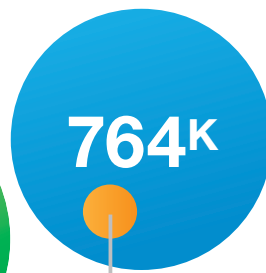
Other Ministry Institutions⁴



ANNUAL GROWTH



2025
Projected level of 53% tertiary enrolment
(2.5M students³)
(70% higher education)



TVET enrolment

³ Includes foreign students in Malaysian HLIs (97,000 in 2012 and 250,000 in 2025)

⁴ Includes Malaysia Institute of Teacher Education (IPGM) and Matriculation

What impact will this transformation journey have?

As with the reform of the preschool to post-secondary education system outlined in the MEB, the transformation of the higher education system will lead to a collective set of desirable benefits, rights, and corresponding responsibilities for each stakeholder group.

Students will...

... enjoy higher quality programmes that use experiential and technology-enabled learning models to offer more personalised and engaging learning experiences that push the limits of their potential;

.... graduate with a balance of *akhlak* and *ilmu* that better prepares them for employability in today's global economy, and for grappling with the complexities and new challenges of the 21st century;

... have more and better choices through new models of learning such as Massive Open Online Courses (MOOCs), greater competition across HLIs, and better guidance on educational pathways and career options;

... receive financial support that is commensurate with their needs to ensure that affordability does not become a barrier for any eligible student. Further, students receiving student loans will only need to pay back if they eventually benefit from their education; and

... be able to re-enter the world of learning at any time in their life through formal, non-formal, and informal pathways, in order to pursue their passions and ongoing professional development.

In return, students will be asked to honour the investment being made in their future by fully embracing the opportunities afforded to develop them as holistic, entrepreneurial, and balanced individuals, upholding financial commitments such as loan repayments, and paying it forward by finding ways, big and small, to serve the community, nation, and world.

The academic community will...

... enjoy more attractive differentiated career pathways and performance-based rewards that support specialisations in teaching, research, institutional leadership, and allow practitioners and professionals more flexibility in participating in higher education and sharing of expertise;

... have the support they need to succeed in their new roles through targeted professional development programmes – from industry and cross-institution mobility programmes, to leadership development programmes;

... enjoy greater decision-making rights in areas such as curriculum, financial management, and talent management, so as to enable their institutions to move with greater agility and speed in responding to global and local trends; and

... benefit from closer integration with industry as well as local and international communities, through innovative partnership models on funding, teaching and learning, as well as research, development, and commercialisation.

In return, the academic community will be asked to stay open to and adopt these new ways of working, to work collaboratively with all stakeholders during this transformation journey, and to model the holistic, entrepreneurial, and balanced mindsets, values, and behaviours expected of students.

HLI leaders will...

... be empowered with greater decision-making rights in public HLIs which will be devolved to them as and when they are ready, in order to enhance their agility in responding to local and global trends;

... enjoy more streamlined regulatory processes that eliminate unnecessary red tape, harmonise standards and requirements across public and private HLIs, and set crystal-clear expectations on performance;

... benefit from a tailored approach of support, with recognition and incentives for different forms of institutional excellence, and guidance on critical topics such as governance and talent development via “playbooks” and a sharing of international and local best practices; and

... be able to focus on what really matters through a performance management and quality assurance system that focuses on outcomes rather than inputs and processes.

In return, HLI leaders will be asked to embrace their role as transformational change leaders-charting visionary journeys for their institutions, rallying all stakeholders in the effort to turn this vision into reality, and modeling the mindsets, values, and behaviours expected of the HLI community.

Industry will...

... be able to secure learned, values-driven talent who are better prepared for work with the right knowledge, skills, behaviours, attitudes, and mindsets that industry needs;

... be able to partner more easily with the Ministry and HLIs to solve its most pressing challenges and developing cutting-edge solutions for specific industry or market needs;

... benefit from greater support from HLIs on lifelong learning for their employees, with more opportunities and options for reskilling and upskilling so as to continuously enhance the capabilities of the existing workforce; and

... benefit from enhanced responsiveness and service quality from the Ministry and HLIs, especially on access to qualified graduates who are better informed about careers and jobs.

In return, industry will be asked to step forward as active partners in the transformation journey, contributing across the entire education and innovation value chain, from curriculum design and delivery, to funding and placements for graduates, as well as research, development, and commercialisation.

Ministry officers will...

... be able to focus on the Ministry's role as policymaker and regulator in higher education, with a streamlined set of activities that eliminates bureaucratic red tape and micro-management of HLIs;

... have greater autonomy and decision-making power to maximise the effectiveness and efficiency of the Ministry's functions, particularly in frontline services with critical stakeholder touchpoints and interactions such as student admissions and financial services;

... receive targeted support, professional development, and resources as they learn, unlearn, and relearn the skills they will need to fulfill these new roles and responsibilities; and

... work in a collaborative and transparent environment. Silos between divisions will be broken down, and roles and responsibilities will be clarified and streamlined to eliminate duplication of functions and activities.

In return, Ministry officers will be asked to stay responsive to feedback from HLIs, industry, and the public, to focus on outcomes, not bureaucratic processes and inputs, and act as role models and champions for the changes the system is about to undergo.

The 10 Shifts



To achieve these system and student aspirations, the MEB (HE) outlines 10 Shifts that will spur continued excellence in the higher education system. All 10 Shifts address key performance issues in the system, particularly with regard to quality and efficiency, as well as global trends that are disrupting the higher education landscape.

The first four Shifts focus on outcomes for key stakeholders in the higher education system, including students in academic and TVET pathways, the academic community, as well as all Malaysians participating in lifelong learning. The other six Shifts focus on enablers for the higher education ecosystem, covering critical components such as funding, governance, innovation, internationalisation, online learning, and delivery.

1 Holistic, Entrepreneurial and Balanced Graduates

There is a mismatch in the supply and demand of graduates, with employers reporting that graduates lack the requisite knowledge, skills and attitudes. This mismatch is only expected to get tougher to resolve as technological disruptions reshape industries and alter the types of jobs available. Preparing Malaysian youth to navigate this uncertain future not only requires imbuing them with transferrable skills and sound ethical foundations, but also the resilience and enterprising spirit to forge new opportunities for themselves and others. It is important to move from a world of job seekers to a world of job creators.

2 Talent Excellence

The quality of Malaysia's HLIs, and therefore the higher education system, can only be good as the quality of its academic community, from educators, researchers, institutional leaders, practitioners, to academic support staff. At present, however, rigid career development pathways restrict the degree to which HLIs are able to attract, recruit, and retain the best talent. There is also insufficient specialisation based on HLI's strengths and focus areas. The higher education system needs to move from a one-size-fits-all world, to one where HLIs have diversified career pathways and different models of institutional excellence.

Why Does It Matter



What Will Success Look Like



Every graduate will have the relevant disciplinary knowledge and skills (*ilmu*), ethics and morality (*akhlak*), as well as the appropriate behaviours, mindsets, cultural, and civilisational literacy (*beradab*) to advance them to a high level of personal well-being. They will be global citizens with a strong Malaysian identity, ready and willing to contribute to the harmony and betterment of the family, society, nation, and global community. Such holistic, entrepreneurial, and balanced graduates are a natural extension of the goal of the Malaysian basic education system to develop values-driven Malaysians.

HLIs will be able to attract, develop, and retain excellent talent through specialised pathways for educators, researchers, leaders, and practitioners. The academic community will also benefit from a conducive, supportive, and meritocratic environment with better continuous professional development programmes that enable them to meet changing responsibilities and expectations. Malaysia's talent will be respected, referred, and relevant, both locally and internationally.

To achieve these outcomes, the Ministry and HLIs will focus on developing more holistic and integrated curricula and enhancing the ecosystem for student development. Key initiatives include:

- **Enhancing the student learning experience** by expanding industry collaboration in the design and delivery of programmes; increasing the use of experiential and service learning to develop 21st century skills, and leveraging technology-enabled models to enable more personalised learning;
- **Devising an integrated cumulative grade point average (CGPA) system** to assess student's holistic, entrepreneurial, and balanced development. This new system will not only assess knowledge and thinking skills (as is the current practice) but also the other primary attributes that comprise Malaysia's student aspirations: ethics and spirituality, leadership skills, national identity, and language proficiency; and
- **Creating opportunities for students and academic staff to acquire entrepreneurial skills** and pursue their own enterprises through sabbaticals, industry secondments, business incubators, and green lane policies that support student-owned businesses.

To achieve these outcomes, the Ministry will encourage HLIs to pursue different forms of institutional excellence, diversify career pathways, and introduce systematic mechanisms for talent recruitment and development. Key initiatives include:

- **Positioning HLIs according to their recognised areas of institutional excellence**, namely excellence in overall research, excellence in niche areas of research, and excellence in teaching and instruction. Both public and private HLIs will be encouraged and incentivised to aspire for these different forms of excellence and to continuously improve their performance in their areas of specialisation and focus;
- **Enabling HLIs to develop multi-track career pathways** for inspiring educators, accomplished researchers, experienced practitioners, and transformational institutional leaders; and
- **Providing best practice guidelines** to support both public and private HLIs in developing stronger end-to-end talent development strategies for both local and international talent, using the New Academia talent framework covering the resourcing, recruiting, rewarding, and retention of talent.

How Will We Achieve This



3 Nation of Lifelong Learners

Lifelong learning (LLL) enables Malaysians to meet the changing skill needs of a high-income economy and maximises the potential of individuals who are currently outside the workforce through reskilling and upskilling opportunities. It also enables the development of personal interests and talents for a more fulfilled life. Malaysia needs to move from a world where education is seen as something that happens only during one's youth, to a world where Malaysians of all ages constantly seek out learning opportunities to enrich themselves.

Why Does It Matter



What Will Success Look Like



Lifelong learning will become a way of life for all Malaysians. There will be high quality formal, non-formal, and informal programmes in a wide range of disciplines and topics to support both professional and personal development. There will be learning communities in every organisation, with formal mechanisms to recognise prior experience and learning. Everyone will have access to these opportunities, regardless of income level or background.

To achieve these outcomes, the Ministry will increase public awareness of the benefits of LLL, raise the quality of existing programmes and introduce more innovative programmes to broaden the appeal of LLL. Key initiatives within this Shift include:

- **Creating a framework for recognising prior learning**, including the establishment of clear pathways for re-entry into the education system, establishing a national credit system to enable accumulation of modular credits over time, and stipulating clear criteria for recognising prior experience;
- **Launching stakeholder engagement programmes** (for example, MyCC loyalty programme, 1Family Multiple Skills Programme) that incentivise participation, and improving the existing marketing infrastructure (for example, smartphone applications) to make it easier for the public to search for information on available programmes; and
- **Continuing to provide financial support** to disadvantaged groups and tax reduction incentive schemes to companies, and to work with financial institutions to create financial assistance programmes for all groups.

How Will We Achieve This



4 Quality Technical and Vocational Education and Training (TVET) Graduates

Under the Economic Transformation Programme (ETP), Malaysia will require a 2.5fold increase in TVET enrolment by 2025. At present, however, there is an undersupply of TVET workers in 10 of the 12 National Key Economic Area (NKEA) sectors. Further, TVET is seen as a less attractive pathway than university education, thereby limiting the number of students, particularly high-performing ones, who apply for such courses. Malaysia needs to move from a higher education system with a primary focus on university education as the sole pathway to success, to one where academic and TVET pathways are equally valued and cultivated.

The Ministry — through its community colleges, vocational colleges, and polytechnics — will be a premier higher education TVET provider that develops skilled talent to meet the growing and changing demands of industry, and promotes individual opportunities for career development. Enrolment in TVET programmes will expand significantly, through extensive partnerships with industry, to ensure supply matches demand.

To achieve these outcomes, the Ministry will intensify industry involvement and partnerships, streamline qualifications, improve coordination across the Ministry's TVET providers and enhance branding efforts. Key initiatives include:

- **Enabling industry to lead curriculum design and delivery** through new partnership models and lifting the quality of delivery through increased apprenticeship, hands-on training, real-life simulations, and specialised employer training programmes;
- **Enhancing coordination across the Ministry's various TVET providers** to eliminate duplication of programmes and resources, enable greater specialisation in areas of expertise, and improve cost efficiency; and
- **Coordinating with other ministries and agencies** offering TVET programmes to streamline the national qualification framework, ensure alignment with major industry associations, and pursue international accreditations for TVET programmes.

5 Financial Sustainability

Over the next decade as costs continue to rise, Malaysia will need to deliver quality higher education to almost twice as many students if it is to reach the highest enrolment levels among ASEAN nations. The challenge is that total Government expenditure on higher education has been rising at a rate of 14% per annum, driven largely by subsidies to public HLIs, where 90% of their expenditure is Government funded. Additionally, current student loan repayment rates for the National Higher Education Fund Corporation or *Perbadanan Tabung Pendidikan Tinggi Nasional* (PTPTN) need to be significantly improved. Malaysia needs to move from a system that is highly dependent on Government resources and focused on inputs to one that is focused on outcomes and where all stakeholders contribute, proportionate to their means.

There will be continued Government investment of a large portion of the national budget and GDP in the higher education system. Return on investment will, however, improve significantly to match that of peer countries. Public and private HLIs will draw on diverse sources of funding to allow continuous improvement in the quality of their programmes, and more prudent and innovative use of their resources. There will be more targeted support for socio-economically disadvantaged students to make enrolment more affordable and accessible to everyone who is eligible.

To achieve these outcomes, the Ministry will link government funding to performance, reform existing student financing mechanisms, and encourage HLIs to diversify funding sources. Key initiatives include:

- **Improving the funding formulae for public HLIs** by replacing block grants with performance-linked and per student funding, implementing five year performance contracts (3+2), and targeting government investment in priority areas;
- **Enhancing PTPTN performance and sustainability** by improving repayment rates, shifting to income-contingent loans, and linking access to student loans with the performance and quality standards of HLIs; and
- **Incentivising creation of endowment and *waqf* funds**, as well as encouraging contributions to higher education, for example, through the provision of matching grants for HLIs during the initial fund-raising period.

6 Empowered Governance

Good governance is essential for the efficient functioning of any organisation and for building great institutions. In Malaysia, many decision rights are still concentrated at the Ministry level rather than at HLIs, creating supervisory burden and potential inefficiencies. These constraints also make it difficult for HLIs to move quickly in response to global and local trends. Malaysia needs to move from a higher education system where the Ministry is a tight controller, to one where the Ministry is focused primarily on its role as policymaker and regulator, and where HLIs are empowered to steer their own journey of growth.

The Ministry will have a portfolio of fully-autonomous and semi-autonomous HLIs based on their readiness and capacity for decision-making. These HLIs will operate freely within the regulatory framework established by the Government with strong governance structures, clear decision rights, and effective stakeholder management. These enhanced freedoms will be balanced by the right internal capabilities and with appropriate accountability mechanisms.

To achieve these outcomes, the Ministry will focus on its role as a regulator and policymaker, and give HLIs greater decision-making power in return for clear accountability against a set of pre-agreed outcomes. Key initiatives include:

- **Defining five-year (3+2) outcome-based performance contracts** between the Ministry and HLIs, with public HLI funding at risk if performance goals are not met, and incentives for exceeding targets;
- **Strengthening quality assurance in the private sector**, by requiring private HLIs to participate in enhanced national quality assurance frameworks (for example, SETARA and MyQuest) for continued access to government funding (for example, research grants and PTPTN student loans). The degree of access will be linked to their participation and level of performance against these frameworks and standards; and
- **Moving decision rights from the Ministry to the leadership of public universities**, improving the governance effectiveness of HLIs, and building the capacity and capabilities of University Boards and institutional leaders to take on these increased responsibilities.

7 Innovation Ecosystem

Malaysia aspires to make innovation a major driver of national economic growth. While research output is improving — Malaysia ranked 23rd for number of publications in 2013, up 11 places from 34th in 2009 — more can still be done. For example, Malaysia ranks 43rd out of 110 countries on number of patents, and engagement levels with industry and community are still not as intensive or widespread as desired. Malaysia needs to move from academia operating in isolation, to the quadruple helix of academia, industry, government, and local communities coming together in partnership for the incubation, development, and commercialisation of ideas.

Why Does It Matter



What Will Success Look Like



The Ministry will facilitate the development of innovation ecosystems in selected strategic areas that are critical to the nation's economic growth. These ecosystems will support both university-driven and demand-driven research, development, and commercialisation models, with significant improvements on a wide range of research measures. HLIs, in particular, will intensify their role as a solution provider for other stakeholders, and as a developer of skilled research talent.

To achieve these outcomes, the Ministry will elevate a few priority research areas critical to Malaysia's growth, catalyse private sector and industry involvement, as well as create a supportive environment to facilitate the commercialisation of ideas. Key initiatives include:

- **Focusing on creating scale and growth** in a few strategic research areas which are linked to national priorities for economic growth, and where Malaysia has distinctive capabilities;
- **Playing a catalytic role in securing investments**, particularly through matching schemes like the Private-Public Research Network (PPRN) and redesigning existing financing criteria and grant review processes for greater transparency and accountability; and
- **Incentivising HLIs to establish supporting systems for the commercialisation of ideas**, such as technology transfer offices, mechanisms for the co-utilisation of infrastructure, enhanced data monitoring systems, and talent development programmes.

How Will We Achieve This



8 Global Prominence

Malaysia's higher education system is already a major source of income for the country, given Malaysia's status as a top 10 destination for international students. Increasing competition from other education hubs will, however, require the strengthening of Malaysia's higher education value proposition, capacity, and capabilities, in order to enhance the appeal and competitiveness in the region and beyond. Malaysia needs to raise the nation's higher education brand even further, from an attractive destination known for good value for money and quality of life, to one that is also recognised, referred to, and respected internationally for its academic and research expertise.

Malaysia will be known as an international education hub with a difference, one that provides values-driven and globally relevant education, and is recognised by students for its balance of quality and affordability, good quality of life, and rich cultural experiences. Malaysia will expand enrolment to reach 250,000 international students by 2025, and reach new markets through more innovative programmes and partnerships. Above all, Malaysia will be a globally-connected higher education player that is renowned for its academic and research expertise, particularly in niche areas like Islamic banking and finance, or tropical related science and technology.

To achieve these outcomes, the Ministry will enhance the end-to-end international student experience, increase brand visibility, and strengthen existing and new markets for international students. Key initiatives include:

- **Collaborating with other ministries and agencies** to improve and streamline immigration procedures and processes to match international best practices, for example, through the introduction of multiple year student visas and the provision of an accelerate "green lane" approach for students from HLIs that have consistently demonstrated high quality standards;
- **Increasing the proportion of postgraduate international students** and students from high priority markets such as ASEAN nations, by diversifying and raising the quality of niche programmes; and
- **Strengthening the promotion and marketing** of Malaysia's higher education system through targeted measures such as hosting major international education conferences and strengthening MyAlumni.

9 Globalised Online Learning

Internet penetration in Malaysia currently stands at 67% — the seventh highest penetration rate across Asia. This puts Malaysia in a good position to harness the power of online learning to widen access to good quality content, enhance the quality of teaching and learning, lower the cost of delivery, and bring Malaysian expertise to the global community. There are significant opportunities to achieve the desired outcomes first set forth in the National e-learning Policy (*Dasar e-Pembelajaran Negara or DePAN*). Malaysia needs to move from a mass production delivery model to one where technology-enabled innovations are harnessed to democratise access to education and offer more personalised learning experiences to all students.

Blended learning models will become a staple pedagogical approach in all HLIs. Students will benefit from robust cyber infrastructure that can support the use of technologies like video-conferencing, live streaming and Massive Open Online Courses (MOOCs). Malaysian HLIs will also develop MOOCs in their niche areas of expertise, while participating in international MOOC consortiums and building the Malaysia education brand globally.

To achieve these outcomes, the Ministry will work with HLIs to build the capabilities of the academic community, and explore the establishment of a national e-learning platform to co-ordinate and spearhead content development. Key initiatives include:

- **Launching MOOCs in subjects of distinctiveness** for Malaysia such as Islamic banking and finance, in partnership with high-profile international MOOC consortiums like EdX and Coursera, so as to build Malaysia's global brand;
- **Making online learning an integral component** of higher education and lifelong learning, starting with the conversion of common undergraduate courses into MOOCs, and requiring up to 70% of programmes to use blended learning models; and
- **Establishing the required cyber infrastructure** (physical network infrastructure, info structure, platform, devices and equipment) and strengthening the capabilities of the academic community to deliver online learning at scale.

10 Transformed Higher Education Delivery

The Ministry recognises that a well-conceived strategy or plan is only the starting point. The MEB (HE) will not succeed without effective implementation, as well as commitment and collaboration across the Ministry, HLIs, the academic community, and relevant stakeholders. Change must begin at the Ministry, including role modelling the ability to learn, relearn, and unlearn existing processes, skills, and behaviours. Avoiding the common pitfalls of large-scale transformation programmes will require the adoption of new ways of working internally and with other stakeholders. Malaysia needs to move from a system focused on inputs and a separation of private and public institutions, to a harmonised higher education system focused on delivery, accountability, transparency, and outcomes.

The Ministry will catalyse transformation among private and public HLIs, and lead the way in civil service transformation, by first transforming itself. The Ministry will break down operating silos across departments, forge stronger partnerships with HLIs, industry, and community, and improve its efficiency and effectiveness in its role as a regulator and policymaker. HLIs will embark on their own tailored transformation journeys, with a vanguard of public and private HLIs spearheading the reforms and serving as role models for other institutions.

To achieve these outcomes, the Ministry will redefine the roles, organisation and operating model of the Ministry, enhance delivery capabilities within the Ministry, and harmonise across public and private institutions. Key initiatives include:

- **Launching the University Transformation Programme** by working in close partnership with pilot HLIs, including identifying, codifying, piloting best practices and tools, and disseminating of "playbooks" (*buku panduan*) to all HLIs on critical improvement areas;
- **Restructuring the Ministry organisation** to focus on core functions, create stronger links between HLIs, the community, and industry, and promote greater efficiency in operations, particularly for key frontline services like student admissions and international student services; and
- **Create greater consistency in performance standards and regulations across public and private HLIs**, by enhancing MQA processes and quality assurance frameworks, and eliminating unnecessary red tape.

Initiative implementation roadmap

The envisioned 11-year transformation of the higher education system is broad and complex. To ensure that the system is not overtaxed and execution fatigue is avoided, the Ministry has carefully sequenced the strategies and initiatives of the 10 Shifts across three waves to build successively on one another as the system's capacity and capabilities, and the readiness levels of HLIs improve. The first wave will focus on establishing the building blocks for the transformation; the second wave will introduce more structural improvements to accelerate the pace of change; and finally, the third wave will strengthen the global prominence of Malaysia's higher education system. These waves have been aligned with that of the MEB:

- **2015:** Secure quick wins to build momentum and lay foundation
- **2016-2020:** Accelerate system improvement
- **2021-2025:** Move towards excellence with increased operational flexibility

As with the MEB, the Government and the Ministry are committed to new ways of working in order to deliver significant, sustainable, and widespread results, including:

- **Sustaining leadership commitment and focus at the top:** Top Government and Ministry leadership, including the Prime Minister and the Ministry of Education senior leadership, are committed to regularly reviewing progress, providing guidance, and resolving issues with regard to the implantation of the MEB (HE). The Ministry leadership is also committed to identifying, cultivating and developing the leadership capabilities of the next generation of system leaders to ensure continuity and consistency of the transformation efforts;
- **Intensifying internal and external performance management:** The Ministry will establish a performance management system that sets high expectations of individuals and institutions through clear KPIs. This system will invest in capability building to help individuals achieve their targets, reward strong performance, and address poor performance without creating a culture of blame. The Ministry will also publish performance results annually so that the public can track progress on the implementation of the MEB (HE); and
- **Engaging and partnering with key stakeholders:** As the MEB (HE) initiatives are rolled out, the Ministry will continue to solicit feedback from all relevant parties, particularly HLIs, students, and industry, and will regularly communicate progress and issues to ensure that the entire education system is engaged in the transformation process.

wave

1

(2015)

Build momentum and lay foundation

- **Developing integrated assessment methodology** by HLIs to reflect knowledge and skills (*ilmu*), ethics and spirituality (*akhlak*);
- **Introducing experiential learning, service learning, and entrepreneurial immersion** into curriculum, and new **Job Creator** framework for creating/growing student businesses;
- **Launch new CEO faculty programme** for senior industry or public sector leaders to teach in public HLIs;
- **Enhancing repayment rates** on PTPTN student loans, including incentives and penalties;
- **Launching of tailored University Transformation Programmes** by pilot HLIs as role models for transformation programmes of other HLIs;
- **Codifying best practices into "playbooks"** on critical improvement areas for adoption by HLIs:
 - Enhancing governance and board effectiveness;
 - Strengthening performance management;
 - Improving degree productivity and cost efficiency;
 - Establishing alternative income sources, including endowment funds and *waqf*;
 - Achieving transparency and accountability in financial reporting; and
 - Strengthening career pathways and leadership development.
- **Initiating TVET enhancements** with industry-led curriculum design and delivery, upgrading of teaching staff, and portfolio of high technology and high value programmes;
- **Aligning research priorities with other ministries and agencies** and elevating a few research areas critical to economic growth where Malaysia has a competitive advantage;
- **Redesigning financing criteria** for research grants and enhancing the grant review and monitoring process;
- **Defining clear guidelines for self-accreditation and co-regulation** for private HLIs in consultation with stakeholders;
- **Reviewing enhancements to Malaysian student admissions process** (applications and matching) and end-to-end experience for international students;
- **Remodelling of the coordination body for Malaysian International Scholarships**, and introducing attractive pathways for top international students and scholars;
- **Designing "flagship" MOOCs by HLIs in areas of distinctiveness for Malaysia**, and revising the National e-Learning Policy; and
- **Redesigning of Ministry organisation and operating model** to focus on higher education regulator and policymaker role.

wave

2

Accelerate system improvement

(2016-2020)

- **Intensifying industry and community engagement, and implementing 3+1 or 2+2 undergraduate programmes** with off-campus or industry-based learning;
- **Enhancing the MPU framework and entrepreneurship programmes**, including more practical components and incentives for excellence in entrepreneurial learning;
- **Defining criteria and incentives to recognise different forms of institutional excellence**, such as excellence in research, in niche areas, and in teaching;
- **Facilitating implementation of talent mobility programmes and multi-track career pathways** by HLIs;
- **Developing a new Higher Education Talent Roadmap**, including facilitating recruitment of international academic leaders and the launch of leadership programmes for HLI leaders;
- **Establishing a framework for recognising prior learning**, with clear pathways and a national credit system;
- **Harmonising the national TVET qualifications framework** with other agencies and facilitating international accreditation;
- **Introducing new funding formulae and performance contracts for public universities** with clear KPIs;
- **Transforming PTPTN into the Malaysia Education Fund**, with enhanced savings schemes, incentives, and the new *Tabung Siswa* investment fund;
- **Implementing income-contingent loans** for students, and linking access to loans to HLI quality standards and performance;
- **Introducing incentives for establishment of endowment funds or *waqf*** by both private and public HLIs, including matching grants and tax exemptions;
- **Enhancing empowered governance for public HLIs** focusing on board composition, academic autonomy, governance effectiveness, human resources, funding, and procurement autonomy;
- **Assessing establishment of an integrated Higher Education Act** for all types of HLIs (public and private);
- **Expanding matching schemes** for joint research funding from industry and community, and **improving regulations and guidelines for commercialisation** (in collaboration with stakeholders);
- **Accelerating technology transfer** by enhancing support functions by HLIs, and matching stakeholders to promote **infrastructure co-utilisation**;
- **Implementing reforms on international student management**, including streamlining immigration processes, introducing multi-year visas and “green-lane” approach for HLIs with consistently high quality standards;
- **Enhancing promotion of Malaysia’s education brand** and strengthening MyAlumni;
- **Enhancing lifelong learning and online learning infrastructure**, promoting broader adoption, facilitating credit transfers, and innovating on programmes; and
- **Enhancing institutional ratings system and improving MQA quality assurance and approvals** (for example, by simplifying processes).

wave

3

Move towards excellence with increased operational flexibility

(2021-2025)

- **Reviewing policies and guidelines** to facilitate incorporation of 21st century skills into the HLI curriculum to better address global trends, disruptions, and challenges;
- **Completing the transition to multi-year performance contracts** for all public universities;
- **Completing the transition of all public universities towards earned autonomy**, and full implementation of enhanced self-regulation and co-regulation for private HLIs;
- **Achieving financial sustainability of the Malaysia Education Fund** (formerly PTPTN), as well as a sustainable diversified **funding model** for public universities with **high productivity** levels;
- **Assessing implementation of greater autonomy for polytechnics** after completing the conversion of *PoliTeknik Malaysia* into a statutory body;
- **Ongoing enhancements to the quality assurance and institutional ratings system**, benchmarked against international standards;
- **Completing the rebranding of TVET** to achieve a dual-pathway higher education system where academic and TVET pathways are equally valued;
- **Delivering results on University Transformation Programmes by HLIs**, with several HLIs (both public and private) achieving regional and global prominence in their areas of focus and specialisation;
- **Ongoing review on progress of initiatives to enhance innovation ecosystem** efficiency and effectiveness, and implement new interventions where required;
- **Continuing diversification of Malaysia’s international student population**, targeting top sending countries as well as strategic geographies for Malaysia;
- **Ongoing review and enhancement of Malaysia’s global education brand** and international student processes to match international practices; and
- **Completing the establishment of international research laboratories** or centres of excellence with prominent international partners.

The higher education transformation will take place over 11 years

The transformation of the higher education system is a national priority. The Ministry expects that the transformation of both the system and HLIs will be a medium-to-long term journey where full benefits are expected to be gained over the long run. Although the transformation journey will focus on long-term, sustainable results, it is expected that significant impact and changes will be visible in the short term. These changes will form the foundation for future results.





Conclusion

The MEB (HE) proposes major reforms to Malaysia's higher education system in order to accelerate the positive upward trajectory of the system. It places the needs and interests of learners at the heart of the system, and reiterates the Government's longstanding commitment to providing equitable access to high-quality education of international standards. It calls for more intensive and frequent industry and community engagement, collaboration, and partnerships. The MEB (HE) also aims to unleash and empower both private and public HLIs to push the boundaries of innovation and strive for institutional excellence in all its forms. Above all, it will only be through the collective efforts of all stakeholders that the higher education system can be transformed to prepare Malaysians for the challenges and opportunities of an ever-changing world. The future of Malaysian youth and the nation demands nothing less.

Chapter

A

Introduction

The Malaysian higher education system has come a long way. In 2007, the Ministry of Education (the Ministry) developed the National Higher Education Strategic Plan or *Pelan Strategik Pengajian Tinggi Negara* (PSPTN) with the goal of transforming Malaysia's higher education sector and institutions. Major achievements include the opening up of the sector to private providers and international branch campuses, greater cross-border mobility of student and academic staff, and the development of Malaysian Research Universities (MRUs).

Despite these gains, the higher education system needs to keep evolving, both in response to current global trends as well as in preparation for future challenges. The merger of the former Ministry of Higher Education with the Ministry also necessitates a realignment of strategy to ensure students enjoy a seamless educational experience from preschool through to higher education. To that end, the Ministry has developed the Malaysia Education Blueprint 2015-2025 (Higher Education), hereafter known as MEB (HE), to chart the next horizon of growth for the Malaysian education system.

Background to the MEB (HE)

Malaysia's higher education system has come a long way since the establishment of the University of Malaya (UM) in the Federation of Malaya in 1949. Since then, Malaysia has continuously enhanced and strengthened its higher education system, in response to local demands and global trends. These efforts are evidenced by landmark initiatives such as the Universities and University Colleges Act 1971 (UUCA) which spurred the corporatisation of public universities; the National Council of Higher Education Act 1996 which put in place a single governing body to steer the direction of higher education development; and the Private Higher Education Institutions Act 1996, which encouraged the development of private institutions in Malaysia.

The National Higher Education Strategic Plan or *Pelan Strategik Pengajian Tinggi Negara* (PSPTN) was another such example. Launched in 2007, the goal of the PSPTN was to make Malaysian higher education more capable of delivering the skills and knowledge needed by Malaysian society in order to ensure economic growth, while establishing Malaysia as an international hub of excellence in higher education. In line with the National Education Philosophy, the PSPTN pursued a balance between two contrasting views of higher education: (i) that the goal of education be mainly utilitarian, preparing people for the workforce; and (ii) that the focus of education be holistic human development.

The PSPTN's transformation plan focused on seven thrusts delivered through 23 Critical Agenda Projects. The plan comprised four phases: Phase I (2007-2010) Laying the Foundation; Phase II (2011-2015) Strengthening and Enhancement; Phase III (2016-

2020) Excellence; and Phase IV (Beyond 2020) Sustainability. A range of policy and planning documents on topics such as graduate employability, entrepreneurship, lifelong learning, industry attachment, and university-industry-community collaboration were developed to support the PSPTN. Since its launch, PSPTN has successfully advanced the higher education system. Key achievements include the 'democratisation' of the higher education sector, the rapid growth of the private education sector, and the strengthening of Ministry capabilities.

The higher education system nonetheless needs to keep evolving; both in response to global trends as well as in preparation for future challenges. For example, imminent transformations brought about by disruptive technologies and new models such as Massive Open Online Courses (MOOCs) will redefine how teaching and learning takes place and provide students new ways to access higher education. Further, the merger of the Ministry of Education and Ministry of Higher Education in 2013 created an organisation with the scale, scope and reach to further advance Malaysia's higher education aspirations. For example, this merger is enabling closer integration and alignment across a range of strategies in order to develop seamless "cradle to career" pathways for students.

With all these in mind, the Ministry has developed the Malaysia Education Blueprint (Higher Education) or MEB (HE) to chart out the next chapter in Malaysia's higher education transformation journey. It builds on the focus areas of the PSPTN, and delves into new priority areas such as financial sustainability, empowered governance and quality technical and vocational education and training (TVET).



Education in Malaysia is an ongoing effort towards further developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious based on a firm belief in and devotion to God. Such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who possess high moral standards and who are responsible and capable of achieving a high level of personal well-being as well as being able to contribute to the harmony and betterment of the family, the society and the nation at large.

*National Education Philosophy
in Education Act 1996*

7 PSPTN Thrusts

- Widening access and increasing equity;
- Improving the quality of teaching and learning;
- Enhancing research and innovation;
- Strengthening higher education institutions;
- Intensifying internationalisation;
- Enculturating lifelong learning; and
- Reinforcing the Ministry's delivery system.

23 Critical Agenda Projects

- Academia;
- Accelerated Programme for Excellence (APEX);
- Accessibility and Sustainability;
- Centres of Excellence;
- e-Learning;
- Entrepreneurship;
- Governance;
- Graduate Employability;
- Holistic Student Development;
- Industry-Academia;
- Internationalisation;
- Knowledge Transfer Programme;
- Leadership;
- Lifelong Learning;
- Ministry Delivery System;
- MyBrain15;
- Private Higher Learning Institutions;
- Quality Assurance;
- Research and Development;
- Teaching and Learning;
- Top Business School;
- Transformation of Community Colleges; and
- Transformation of Polytechnics.

The MEB (HE) development approach

The MEB (HE) was developed in an inclusive and comprehensive manner and included input from over 100 stakeholder groups, the public and a wide range of experts. The overall approach and sources of input to the MEB (HE) are outlined below.

1

Review of the PSPTN

(Feb 2013 to Feb 2014)

A review team comprising leading academics and educationists from the public and private sector was set up in 2013 to review the Ministry's progress in implementing PSPTN, and identify areas for further improvement. Specifically, the review team was charged with:

- Assessing the accomplishments of PSPTN up to present time;
- Evaluating recent changes and identifying the present-day needs of higher education from a local and global perspective;

- Strengthening the strategy to heighten the excellence of Malaysia's higher education system and institutions; and
- Developing new strategies in accordance with the identified changes.

To ensure that the higher education system addressed the higher education needs of all sectors, the review team also consulted representatives of the general public, academics, industry and union leaders, local and international experts, and others as needed for input in specific areas.

2

Conceptualisation of the 10 Shifts

(March 2014 to Sept 2014)

Based on the PSPTN review team's recommendations and extensive stakeholder consultation, the Ministry identified 10 Shifts that would be needed to take the Malaysian higher education system to the next level. The Ministry established dedicated research and writing teams for each shift, comprising 42 individuals in total.

To help shape these shifts, the Ministry used the National Blue Ocean Strategy framework to identify strategies and initiatives that would be high-impact and low-cost, and that that could be rapidly executed. The Ministry also conducted a second phase of consultation and engagement with select stakeholder groups.

3

Finalisation of the MEB (HE)

(October 2014 to March 2015)

The publication of a preliminary consultation document marked the start of the third and final phase of development. The engagement included face-to-face interactions with cabinet ministers, university administrators, unions and associations, industries, and

selected stakeholder groups including students; wider public engagement was conducted via online feedback and public town halls. More than 5,000 stakeholders were involved in the various engagement sessions.

Engaged stakeholders

1	2,300+ survey responses	14 Malaysian expert advisors
	2,300+ townhall and focus group participants	1 national survey
	16 international advisors and experts	18 townhalls
		9 focus groups

2	250+ stakeholder representatives	5+ workshops
	90+ HLI Chairmen, Vice-Chancellors, and Chief Executives	140 Parent-Teacher Associations across school districts

3	4,500+ HLI staff	20+ unions and associations
	40 industry skills councils and professional bodies	250+ students and alumni
	25+ members of national education councils	500+ Ministry staff
	50+ senior thought leaders and professors	30+ engagement sessions

Continuous **online** engagement

MEB (HE) developers

35	PSPTN review team members
14	chapter writing teams
20	lead authors
42	writing team members

External research



In total, more than 10,500 people were engaged over two years.

Alignment with other national plans and blueprints

Since the development of the PSPTN in 2007, the Government has unveiled various transformation strategies that are fundamentally changing Malaysian policies. These include the Government Transformation Programme (GTP), the Economic Transformation Programme (ETP), the Malaysia Education Blueprint (Preschool to Post-Secondary Education), and the upcoming 11th Malaysia Plan. The new MEB (HE) has been designed to align with these documents to ensure consistency and coherency with the country's national transformation agenda. The implementation of the MEB (HE) will also be guided by existing circulars, general orders, and directives issued by the Government, as well as the current law or legislation in force.

The Government Transformation Programme (GTP)

The GTP is an ambitious, broad-based programme to transform the Government into an efficient, people-centred institution. The programme was introduced to address citizens' concerns over key issues, such as the rising cost of living, corruption, crime and education. While the GTP focuses on basic education, it upholds the principle that access to quality education is a right of every Malaysian, regardless of race, creed or income.

The Economic Transformation Programme (ETP)

The goal of the ETP is to elevate the country to high-income nation status by 2020. Malaysia expects to achieve this goal by addressing 12 National Key Economic Areas (NKEAs) representing economic sectors that are major contributors to Malaysia's gross national income (GNI). Currently, the education sector has programmes to champion Malaysia's international education brand, to build a hospitality and tourism discipline cluster, to create an Islamic finance and business education discipline cluster, to develop educational games, and to build professional accounting centres, among others.

The Malaysia Education Blueprint 2013 - 2025 (Preschool to Post-Secondary Education)

The former Ministry of Education and Ministry of Higher Education were merged in 2013 to ensure seamless planning and policy implementation from preschool through to higher education and beyond. Accordingly, the aspirations and structure of the MEB (HE) is similar to that of the MEB. Critically, the strategies in the MEB (HE) are aligned with and build upon the strategies in the MEB to ensure consistency in aspirations and focus across the entire Ministry.

The 11th Malaysia Plan

In his 2015 budget speech, the Prime Minister spoke about the capital economy and the people economy, the former concerned with macroeconomic stewardship, government policies and global issues, and the latter with the concerns of the *rakyat*—the “ordinary people”—including the cost of living, skills training, entrepreneurship, and security. The MEB (HE) will address these issues, in support of the upcoming 11th Malaysia Plan.

The strategies of the MEB (HE) will focus on “**high-tech, high-touch**” interventions. This means that the MEB (HE) will focus on matters that have the potential to put Malaysia on the world map, which include publishing articles in high impact journals, conducting quality research, and delivering high value education that attracts and retains international postgraduate students. In addition, it will focus on how greater knowledge, quality, research, stronger collaborative linkages, as well as more cross fertilisation of ideas and knowledge-based activities between HLIs, schools, community centres and non-governmental organisations (NGOs) will spearhead national development and improve the *rakyat's* quality of life.

Objectives of the MEB (HE)

The objectives of the development of the MEB (HE) are as follows:

- **Assess current performance and challenges** in order to improve access to education, raise standards (quality), close achievement gaps (equity), promote unity amongst students, and maximize student efficiency;
- **Establish clear aspirations for the system and students**, and integrate them with the national agenda, Malaysia's priorities, and major programmes (for example, ETP); and
- **Develop a comprehensive transformation programme** for Malaysia's higher education system that encompasses key changes to the Ministry, builds on the progress of the PSPTN, is consistent with the MEB, and reflects the latest global education trends and challenges.

Overview of the MEB (HE)

As seen below, each following chapter discusses a critical component of a successful higher educational system.

Chapter B sets out the case for change and includes an overview of current achievements and gaps.

Chapter C discusses the vision for the Malaysian higher education system, including student and system aspirations, as well as the most important performance indicators for the system. It also discusses the essential steps Malaysia must take to achieve its aspirations along the dimensions of access, quality, equity, unity and efficiency. This is the basis for the 10 Shifts—four are important stakeholder outcomes, and six are the enablers to achieving them.

Shifts 1 to 10 discuss the ten desired outcome changes that are required to transform the higher education system. These 10 Shifts address questions such as "Why it matters", "Where we are", "Objectives", "Principles", "Strategies and initiatives", and include tracking measures that drive the implementation of each Shift.

Conclusion

Over the past two decades, the Malaysian higher education system has made great strides, from the opening up of the sector to private providers to the development of MRUs. Nonetheless, the system needs to keep evolving if Malaysia is to stay globally competitive. The Ministry thus developed the MEB (HE) to ensure a seamless integrated educational journey for students from basic through to higher education, and to chart the next wave of growth for the system. The MEB (HE) was developed through extensive stakeholder consultation and engagement over a period of two years.

Chapter

B

Current Performance

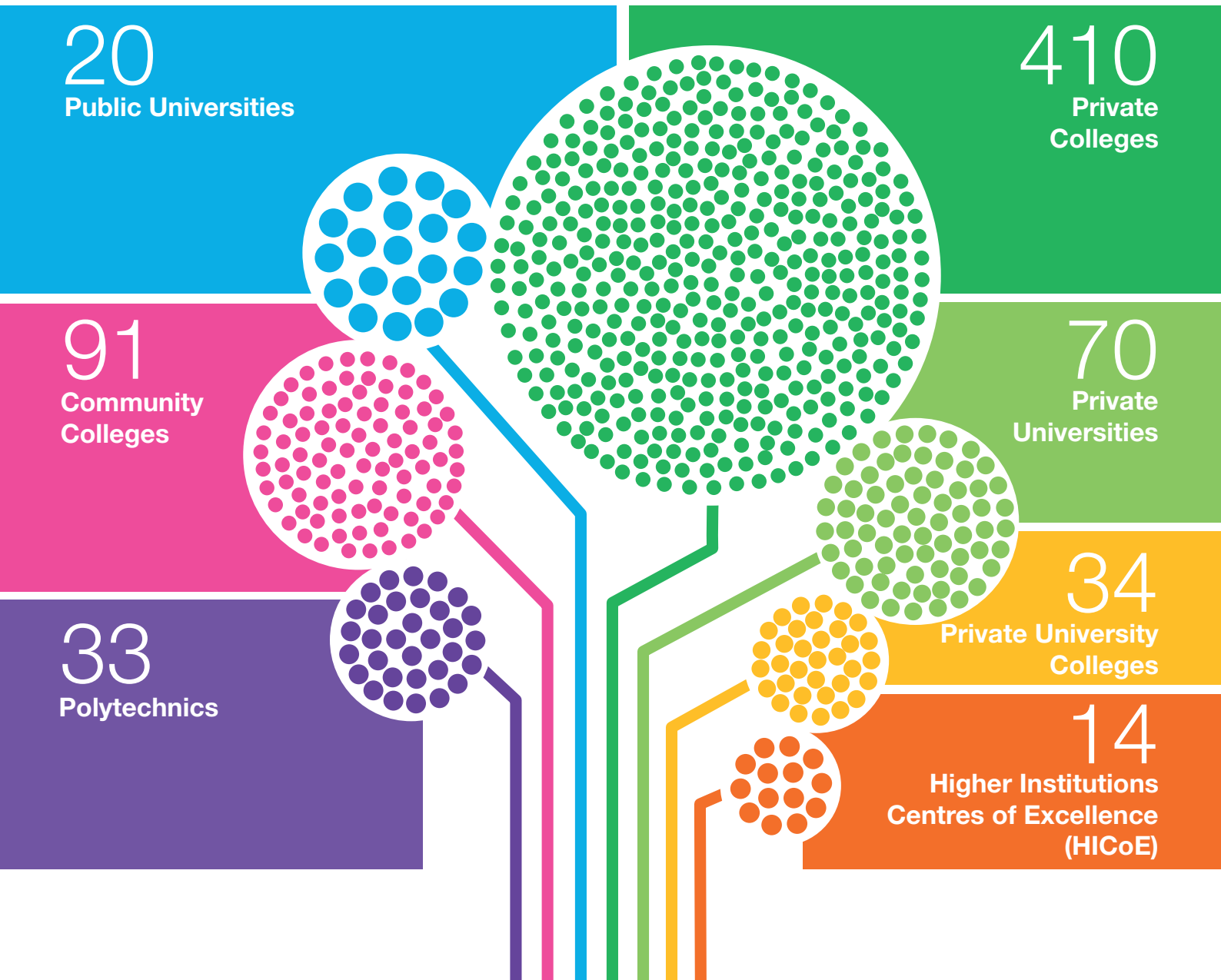
Since Malaysia's independence in 1957, one objective of higher education in Malaysia has been to fulfill the country's talent needs. The National Education Philosophy, written in 1988 and revised in 1996, further enshrined the Government's vision of education as a means for the holistic development of all students — intellectually, spiritually, emotionally, and physically.

This chapter analyses the current state of the Malaysian higher education system along the same system outcomes of access, quality, equity, unity, and efficiency that were set out in the Malaysia Education Blueprint 2013 - 2015 (Preschool to Post-Secondary Education), hereafter known as MEB. It establishes a clear and objective performance baseline, upon which the strategies and initiatives of the Malaysia Education Blueprint 2015 - 2025 (Higher Education), hereafter known as the MEB (HE) were developed.

Higher Learning Institutions

Ministry of Education, 2014

○ Each dot represents one Higher Learning Institution in Malaysia



Students and Academic staff

Ministry of Education, 2014

TOTAL STUDENT ENROLMENT **1.2 million** TOTAL INTERNATIONAL STUDENTS **0.1 million**

○ Each dot represents 1,000 students
● International students
👤 Represents 500 Academics
👤 PhD holders

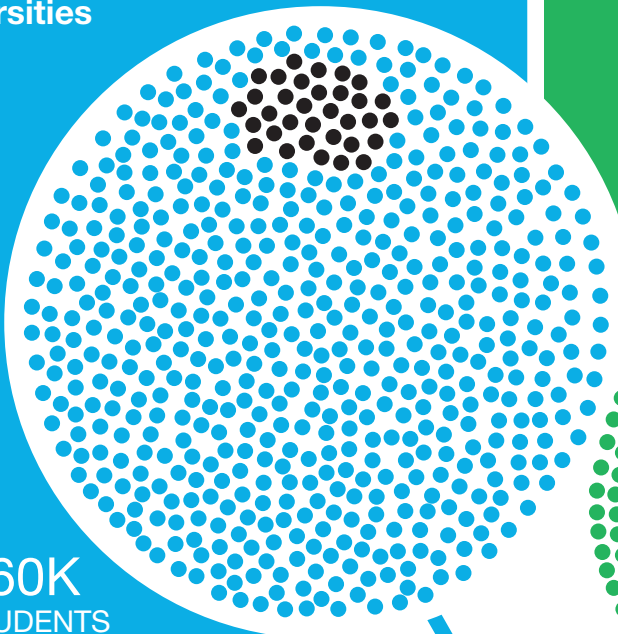
Public Universities

ACADEMICS
(33,199)



PhD 37%

560K
STUDENTS



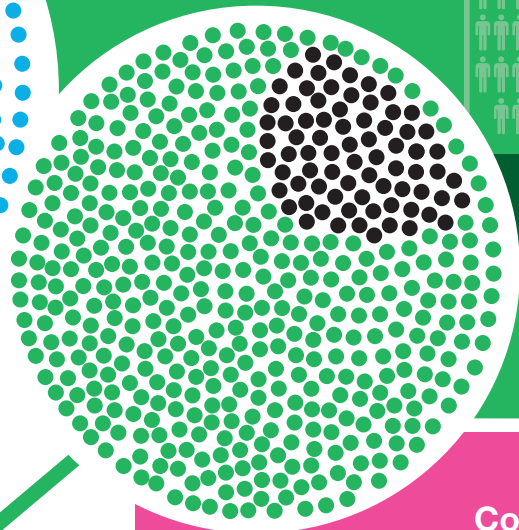
Private Universities, University Colleges and Colleges

ACADEMICS
(24,476)



PhD 13%

485K
STUDENTS



Polytechnics

ACADEMICS
(7,256)



PhD 0.6%

90K
STUDENTS



Community Colleges

ACADEMICS
(2,816)



PhD 0.1%

22K
STUDENTS



TOTAL ACADEMICS **71.6K** TOTAL PhD **15.5K**

Current structure and pathways

Malaysia currently serves 1.4 million students in higher education and training, of which 1.2 million are enrolled in higher learning institutions (HLIs) under the purview of the Ministry of Education (the Ministry). Specifically, the Ministry oversees 20 public universities, 33 polytechnics, 91 community colleges and 514 private HLIs. Out of the 20 public universities, five have the status of Malaysian Research Universities (MRUs). The 33 polytechnics in turn consist of three Premier, five Metro and 25 Conventional institutions, while the 514

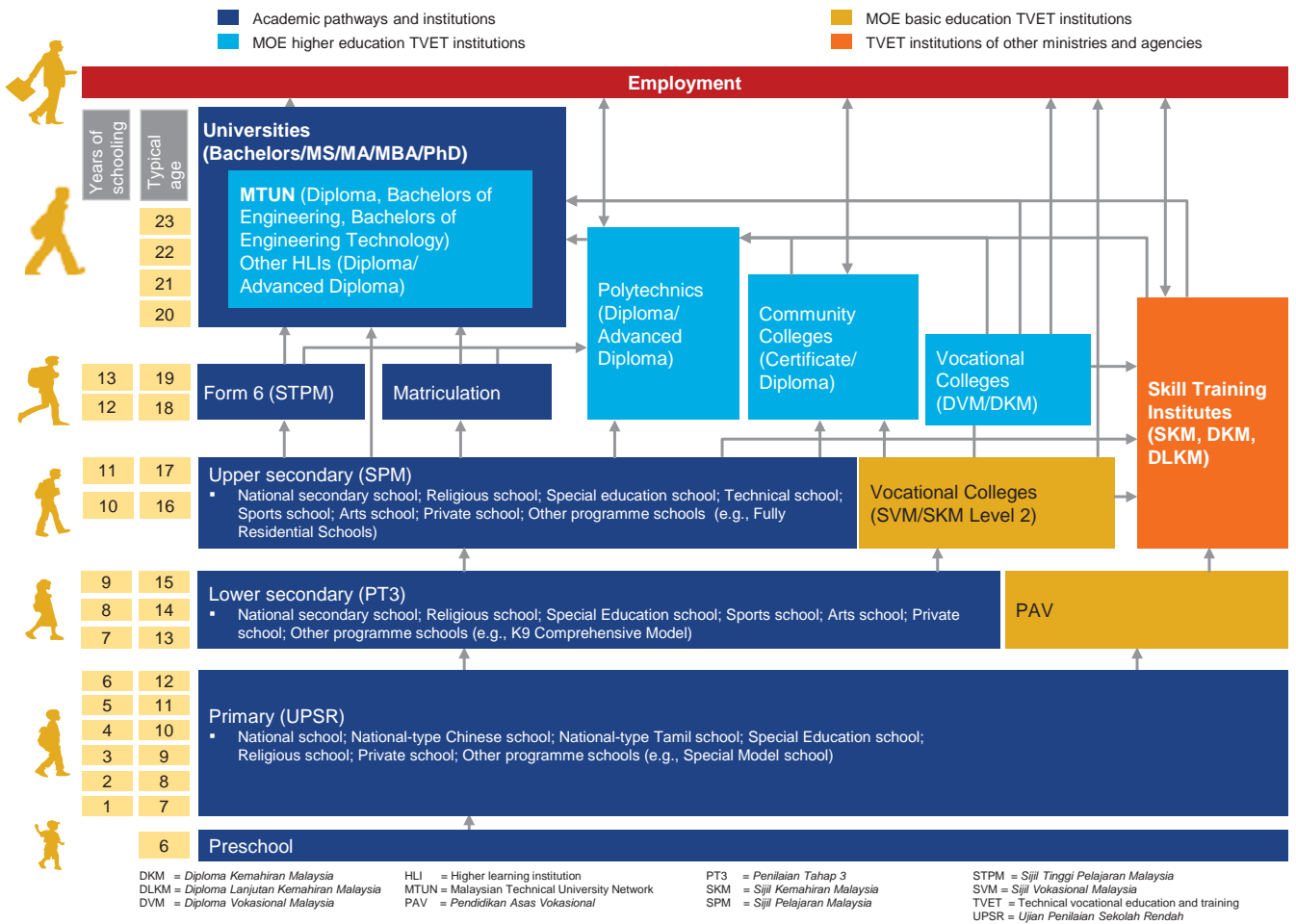
private HLIs consist of 70 private universities, 34 private university colleges, and 410 private colleges.

The system offers both academic and technical and vocational education and training (TVET) pathways in order to cater to diverse personal interests and industry needs. Exhibit B-1 summarises the current education phases and pathways in Malaysia, from preschool through to tertiary education.



EXHIBIT B-1

Malaysia education pathways



SOURCE: PEMANDU-PADU TVET Lab, July 2014

Overall performance

The Universitas 21 (U21) Report provides an assessment of higher education in 50 countries across four dimensions: resources, environment, connectivity, and output (see Box B-1). It serves as a benchmark for governments, education institutions and individuals. It also highlights the importance of creating a strong environment that enables HLLs to contribute to economic and cultural development, provide a high-quality experience for students, and compete for overseas applicants.

As shown in Exhibit B-2, Malaysia has an overall rank of 28 out of 50, which the report notes to be “expected for Malaysia’s income

level”. Across the four dimensions, the rankings range quite widely. On resources, Malaysia ranked 12th, reflecting the deep commitment the Government has towards higher education. Indeed, when adjusted for income level, Malaysia has the highest resource commitment of any country in the U21 Report. In contrast, Malaysia ranks 44th on output, a measure which encompasses research output, institutional rankings, graduate employability, and enrolment. Therefore, the challenge for Malaysia is to lift the level of output to match that of resources committed. To that end, Exhibit B-3 also highlights selected countries that Malaysia could learn from.

EXHIBIT B-2

Malaysia’s ranking in the U21 report

Rank out of 50 countries		1	2	3	4	OVERALL	U21 Report: “28 th Rank is expected for Malaysia’s income level”.
		RESOURCES	ENVIRONMENT	CONNECTIVITY	OUTPUT		
Malaysia		12	26	35	44	28	
Asian Neighbours	Singapore	9	11	5	19	10	
	Thailand	47	30	30	47	42	
	Indonesia	50	37	25	50	48	
	Hong Kong	19	4	7	23	15	
	South Korea	18	39	32	18	21	
Global Benchmarks	USA	4	3	15	1	1	
	UK	21	16	3	2	8	
	Australia	16	8	8	6	9	
TYPE OF METRICS USED		Government expenditure, investments, R&D	Qualitative assessment of policy and regulatory environment	<ul style="list-style-type: none"> Collaboration globally and with industry International student enrolment 	<ul style="list-style-type: none"> Research output Institution rankings Enrolment Employability 	Average score of the four categories	Examples for benchmarking

SOURCE: Annual report by Universitas 21, a global network of research universities for the 21st century with 26 members that enroll over 1.3 million students and employ over 220,000 staff and faculty. The U21 Index compares national higher education systems for 50 countries



Box B-1

Four dimensions of the U21 Report

Resources. A precondition for well-performing higher education systems is that they are sufficiently resourced, whether by government or the private sector. Metrics assessed include:

- government and total expenditure on higher education institutions as a percentage of GDP; and
- annual expenditure per student by higher education institutions.

Environment. A conducive regulatory environment can ensure that resources are utilised efficiently, improve the system's ability to attract and retain globally-competitive talent and facilitate innovation. Metrics assessed include:

- qualitative assessment of policy and regulatory environment; and
- data quality.

Connectivity. High connectivity with other countries and industries is an indicator of a system's teaching and research quality, as well as its absorption of innovations. Metrics assessed include:

- the number of articles co-authored with international collaborators; and
- ratings from business executives on the value of knowledge transfer between companies and universities' in their country.

Output. Good higher education systems not only produce a well-trained and educated workforce that meets the country's needs, but also contributes to national and world knowledge. Metrics assessed include:

- unemployment rates; and
- research excellence in terms of quality and quantity of publications.

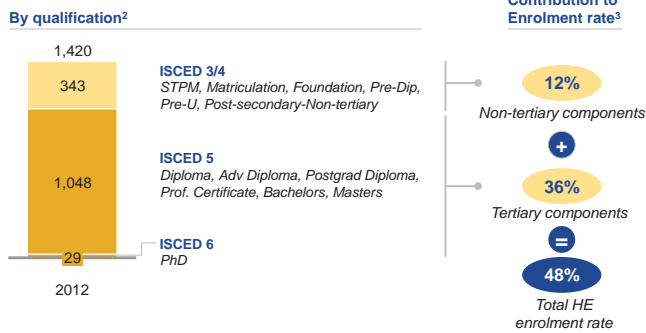
Access

EXHIBIT B-3

Breakdown of enrolment by programme level

Number of students enrolled in higher education in Malaysia¹ by qualification

Thousands



¹ Includes ISCED classifications 3 and above; includes STPM, Pre-U, Matriculation, Foundation, Pre-diploma courses.

² As reported by MOE; ISCED (International Standard Classification of Education) levels defined by UNESCO.

³ Per UNESCO definition: Number of students enrolled in a given level of education, regardless of age, as a percentage of 18-22 age group.

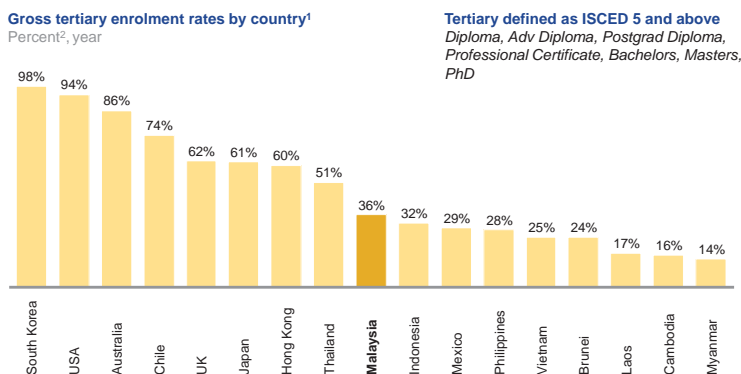
SOURCE: MOE, UNESCO

EXHIBIT B-4

Comparison of tertiary enrolment rates by country

Gross tertiary enrolment rates by country¹

Percent², year



Tertiary defined as ISCED 5 and above

Diploma, Adv Diploma, Postgrad Diploma, Professional Certificate, Bachelors, Masters, PhD

¹ Selected countries based on the following categorisation: Developed Asian economies (Hong Kong, Singapore, South Korea, Japan), SEA neighbours (Indonesia, Thailand, Singapore), comparable GDP per capita (Chile, Mexico), Other ASEAN (Philippines, Vietnam, Brunei, Laos, Cambodia, Myanmar), Developed countries (USA, UK, Australia).

² No. of students enrolled in a given level of education, regardless of age, as a % of the 5-year age group starting from secondary school graduation age.

SOURCE: UNESCO, World Bank, MOE

Substantial increase in student enrolment over past decade

Total enrolment in public universities, polytechnics, community colleges, and private HLIs increased by 70% from 2004 to 2014 to reach 1.2 million students. The increase in enrolment has been even greater for higher degree programmes. Enrolment in masters and doctoral programmes increased 2.4 times from 2000 to 2010, and 10 times from 1990 to 2010.

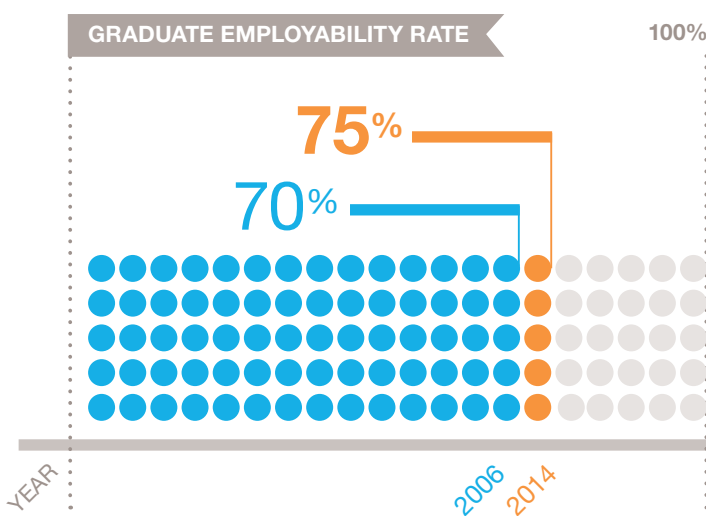
Higher education programmes can be classified into two categories: tertiary and non-tertiary. The former encompass qualifications from diploma level and above. The latter encompass post-secondary offerings such as STPM, matriculation, foundation and pre-university programmes. In 2012, the total enrolment rate (measured as a percentage of the 18-22 year old population cohort) in higher education reached 48% (36% in tertiary education programmes and 12% in non-tertiary education programmes) (Exhibit B-3). To support future growth, Malaysia must continue to increase access to all forms of higher education as it approaches developed nation status, including TVET, bachelor, and postgraduate degree programmes.

At 36% tertiary enrolment, Malaysia's enrolment rate would rank in the middle tier globally (see Exhibit B-4). Furthermore, Malaysia is now ranked third¹ in ASEAN for Masters and PhD enrolment at 4%, behind Singapore and Thailand at 8% each.

¹ UNESCO

Quality

EXHIBIT B-5



Box B-2

Peer groups used

Throughout this chapter, three different peer groups have been used in making comparisons between Malaysia and other education systems. While it has not always been possible to get information for each country in every comparison, the constituents of all the category groups (in terms of countries) have been kept constant throughout. Where OECD or international averages have been available, these have also been included in the comparison groups.

- **Top performing Asian countries** such as Hong Kong, Singapore, South Korea, and Japan;
- **Southeast Asian neighbours** such as Indonesia, Thailand, and Singapore; and
- **Comparable GDP per capita countries** such as Chile and Mexico.

Great examples of excellence, with room for further development

The assessment of quality in higher education focuses on four indicators. Graduate employability measures the quality of teaching in terms of its effectiveness in preparing students for the workforce who meet the needs of the economy. Research output measures are important indicators of knowledge creation and innovation. Ability to attract international students indicates Malaysia's international prominence as a higher education hub. Finally, university rankings provide an indication of the overall quality and subject area strengths of Malaysia's HLI.

Graduate employability is increasing

From 2006 to 2014, Malaysia achieved an increase in the graduate employability rate, which rose from 70% to 75% (see Exhibit B-5). This measure counts the number of graduates who are employed, self-employed, or in further education at the time of convocation, which is 3 to 6 months after they have completed their studies.

The U21 Report compares the unemployment rate for the population aged 25-64 years with a tertiary qualification versus those with upper secondary or post-secondary non-tertiary education. This measures, in effect, the value of tertiary education as indicated by the increased likelihood of employability. Malaysia compares well on this measure, placing among the middle tier of countries globally and similar to Asian peers such as Singapore, South Korea and Hong Kong.

One final area of concern for many governments across Asia is the degree to which there is underemployment in the system (namely graduates who are employed in a role below their level of qualification, or who are working in unpaid or vulnerable jobs). Such underemployment (as with all issues related to employability) may be due to the quality of the education system and/or the conditions of the job market. In Malaysia, one potential indicator of underemployment is the starting salary of recent graduates. 45% earned below RM1,500 per month in 2013² which is below the targeted salary range for students with undergraduate degrees. Further investigation will be required, however, to determine the extent to which job market conditions are a factor in this starting salary. For example, starting salaries in some sectors, such as tourism and hospitality, tend to be based on the minimum wage, independent of the candidate's qualifications.

² Ministry of Higher Education in Graduate Employability Blueprint (2012).

EXHIBIT B-6

Comparison of country performance on publications and citations

Number of academic articles published, 2013				
	Total	Publications per million population	Growth, %, 2009-2013, CAGR	Average number of citations per publication ¹
1 United States	563,292	1,746	1.5	5.91
2 China	425,677	305	9.4	2.70
3 United Kingdom	162,574	2,561	2.1	6.01
4 Germany	148,278	1,794	2.0	5.84
5 Japan	121,668	958	0.0	4.04
6 France	108,092	1,672	2.1	5.45
7 India	106,029	84	12.6	2.73
8 Italy	92,906	1,521	4.0	5.63
9 Canada	88,711	2,497	1.9	5.99
10 Spain	79,383	1,687	4.6	5.19
...
23 Malaysia ²	23,190	768	20.0	2.45
...
30 Singapore	17,052	3,091	6.2	6.47
...
42 Thailand	11,313	168	8.1	3.53

¹ Data is for publications published in 2011; data for number of citations is measured in 2014.
² Malaysia rose from 34th place globally in 2009 on total number of publications to 23rd place in 2013.
 SOURCE: SCOPUS; IMF – World Economic Outlook Databases (September 2014)

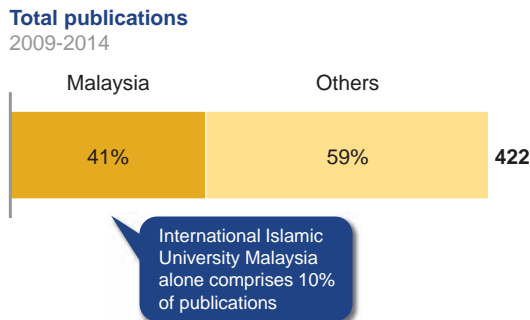
Research quality is improving steadily

In 2006, to help boost the country’s research performance, the Ministry designated four of its premier universities as MRUs. A fifth university was designated in 2010. Exhibit B-6 highlights the ranking of countries based on number of publications. Before MRUs were established in 2006, Malaysia ranked 55th in the number of publications. The placement improved to 34th in 2009, then up to 23rd in 2013. The increment represents a 20% growth from 2009 to 2013, which is the highest growth rate among all the countries evaluated. Despite the late entry of MRUs, Malaysia’s papers and citations per paper is comparable to that of India and China. Malaysia has also overtaken Singapore and Thailand in terms of the number of publications produced.

These improvements are not just in terms of quantity but also quality. The number of publications in ISI³ indexed journals increased 3.1 times from 2007 to 2012, the highest rate of increase in the world⁴. There was a four-fold increase in the number of citations from 2005 to 2012⁵. Malaysia has also been recognised for its strengths in certain disciplines. For example, 41% of referred paper publications on Islamic Banking are from Malaysia⁶ (see Exhibit B-7).

EXHIBIT B-7

Source countries of ‘Islamic Banking’ publication



- 3.1x** increase in publications from 2007-2012, highest in the world
- 4x** increase in number of citations from 2005 to 2012
- 70%** of publications from 2003-12 contributed by 5 MRUs

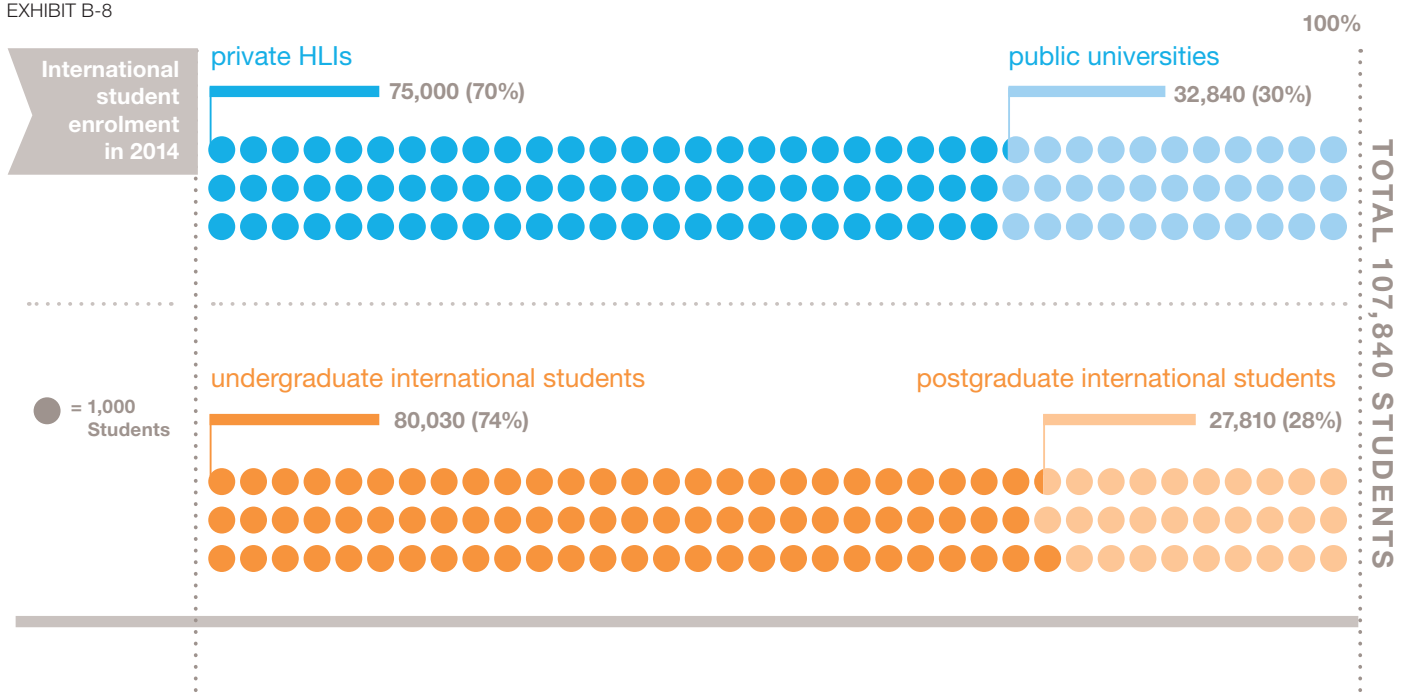
³ Thomson ISI (ISI) offers bibliographic database services, specifically citation indexing and analysis. Listing in the database is based on published selection criteria and is an important indicator of journal quality and impact.
⁴ SCOPUS (2014).
⁵ Ibid.
⁶ Elsevier (2014). *Impact of Malaysian Research Universities as the Engine of Growth for Nation Building*.

International student enrolment has increased significantly

The number of international students in Malaysia has grown significantly. In 2004, there were approximately 32,000 international students studying in Malaysia. As shown in Exhibit B-8, by 2014, that figure had grown three-fold to more than 108,000 students in HLIs. Based on the latest Ministry data, Malaysia is now the 9th largest recruiter of international students globally⁷. The largest sources of international students are Asia and Africa, and the five countries sending the most students are Iran, Indonesia, China, Nigeria, and Yemen.

To ensure it attracts genuine, capable international students, Malaysia has introduced several measures directed at prospective international students, including the creation of Education Malaysia Global Services (EMGS) that streamlines the approval process for international students' visas, and assists sponsored students. Private HLIs continue to focus on attracting quality undergraduate international students, and public universities are encouraged to attract quality postgraduate international students.

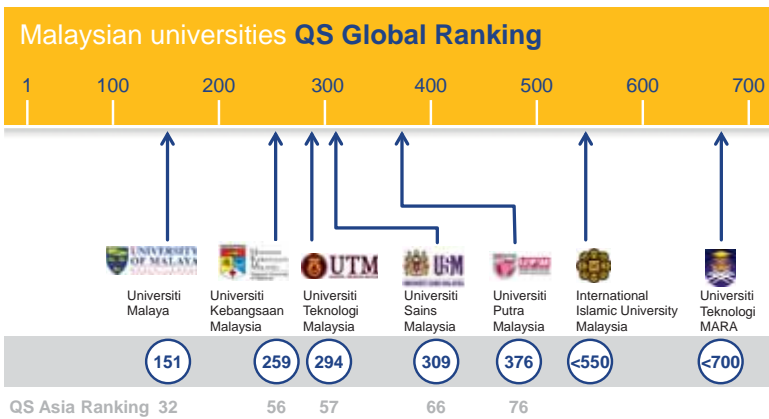
EXHIBIT B-8



⁷ Based on 2014 Ministry data, in comparison with UNESCO data on top 20 international student destinations.

EXHIBIT B-9

Overall rankings of Malaysian universities



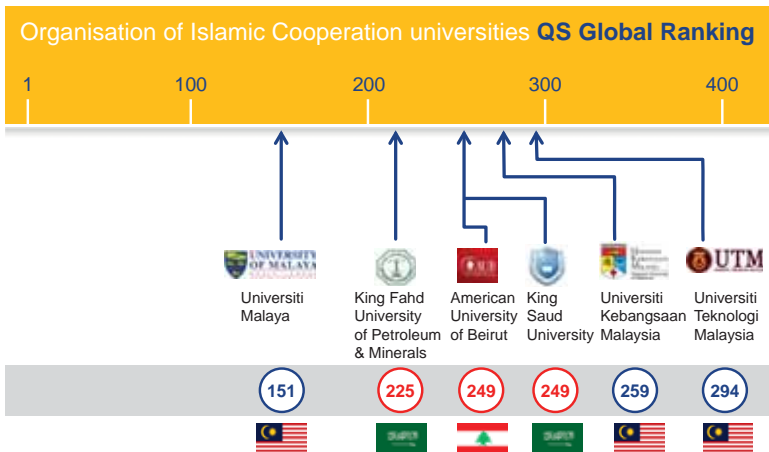
University rankings continue to improve

Malaysian universities continue to improve on global ranking measures. The ranking of each of the top 5 Malaysian universities increased for 2014 as compared with 2013, according to the QS World University Rankings. In addition, five universities are ranked in the top 100 in Asia, and one is ranked in the top 200 globally (Exhibit B-9). Exhibit B-10 shows that according to the QS World University Rankings 2014, *Universiti Malaya*, ranked at 151, is the leading university among the Organisation Of Islamic Cooperation (OIC).

At the subject area level, there are examples of excellence among Malaysian universities. Eight universities are ranked in the top 200 in at least one subject area (Exhibit B-11). In addition, there are five subject areas with five or more universities in the top 200. The five subject areas are: computer science and information systems; engineering—civil and structural; engineering—electronic and electrical; engineering—mechanical, aeronautical, manufacturing; and engineering—chemical.

EXHIBIT B-10

Overall rankings of universities in OIC member countries



Examples of excellence at Malaysian institutions show that there is potential for institutions to be highly distinctive overall. The top 20 in Asia is currently comprised of universities from Singapore, Hong Kong, Japan, South Korea, China and Taiwan. Even though Malaysia has yet to have a university ranked in the top 20 in Asia or the top 100 globally, going forward, it has the potential to join this group.

SOURCE: QS World University Rankings 2014

EXHIBIT B-11

Malaysian universities ranked in top 200 in several subject areas

Subject Area	Top 151-200	Top 101-150	Top 51-100	Top 50
Modern Languages	IIUM		UM	
Computer Science & Information Systems	UTM UPM		UM USM	
Engineering - Chemical	UPM UTP	UTM	UM USM	
Engineering - Civil & Structural	UM	UKM UPM UTM	USM	
Engineering - Electrical & Electronics		UKM UPM USM UTM	UM	
Engineering – Mechanical, A&M ¹		UKM UPM UTM	UM USM	
Agriculture & Forestry			UPM	
Medicine	UM			
Pharmacy & Pharmacology	UKM UPM	UM	USM	
Chemistry		USM		
Environmental Sciences	UM	UPM		USM=28
Geography	UKM UM			
Materials Science	USM UM			
Mathematics		UKM		
Communication & Media Studies	UPM	USM		
Economics & Econometrics	UKM USM UM	UPM		
Education		USM	UPM UKM UM	
Law		UKM UM		
Politics & International Studies			UKM	

- Top 50 in 1 subject area
- 51-100 in 10 subject areas
- 101-150 in 5 subject areas
- 151-200 in 3 subject areas

1 Aeronautical & Manufacturing
 SOURCE: QS World University Rankings by Subjects 2014

Box B-3

University rankings

Many different types of world university rankings exist. The most common ones are the QS World University Rankings, Times Higher Education World University Rankings, and the Shanghai Academic Ranking of World Universities. These rankings are generally weighted heavily towards research output (for example, citations per faculty, number of papers in top journals). The MEB (HE) uses the QS rankings for reference purposes as it is the oldest global ranking and a ranking that provides a broader perspective, thereby providing the Ministry with a better sense of the system's trajectory.

Rankings can serve as a useful yardstick and benchmark as to where an education system's strengths lie, and how it can improve. However, they should not be seen as the definitive measure of quality. As mentioned above, current international rankings are weighted heavily towards research outcomes. This means that critical factors such as the quality of teaching and learning at the institution, or its ability to support disadvantaged students are not captured. Accordingly, world university rankings are but one of many measures the Ministry monitors as it works with HLLs to raise student and institutional outcomes.

Equity

Providing opportunities for all eligible students

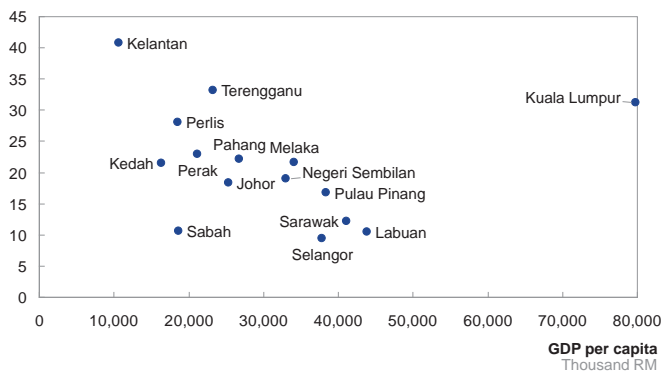
The Ministry aims to ensure equity in higher education, giving every student the opportunity to fulfil his or her full potential—regardless of location, race, gender, or socio-economic background. Data to measure equity in higher education is currently limited. The Ministry will commence collection of demographic data to assess equity among socio-demographic groups, through measures such as enrolment and completion rates.

One indicator of equity is higher education enrolment by state, measured against each state's GDP per capita. As seen in Exhibit B-12, there is no discernible trend in enrolment for higher versus lower GDP per capita states. Although this is an interim measure, it does give an early indication that there is reasonable equity at the state level.

EXHIBIT B-12

Enrolment and GDP per capita by state

Enrolment in Public Universities
Students born in state
Per 1,000 state residents



SOURCE: MOE, Department of Statistics, EPU

Unity

Promoting understanding, appreciation and acceptance of diversity

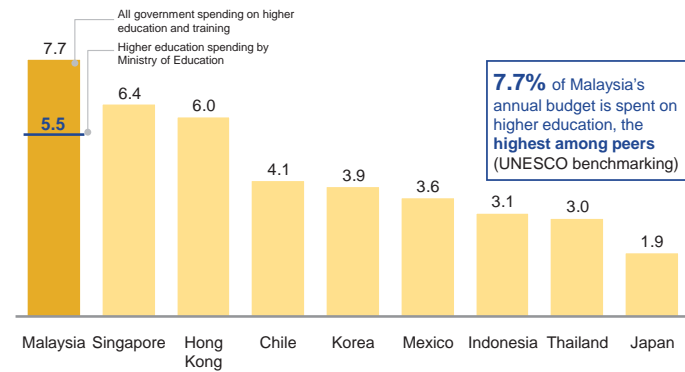
As noted in the MEB, Malaysia's unique diversity—ethnic, religious, and cultural—has always been its greatest strength, and its greatest challenge. As Malaysia increasingly finds itself in a world where differences can divide, it has never been more important for Malaysians to forge a Malaysian identity and embrace its diverse heritage. The Ministry therefore aims to foster amongst Malaysian students an acceptance, understanding, and appreciation, of diversity, via shared experiences, values, and aspirations.

A methodology does not currently exist to measure unity at the higher education level. The Ministry is committed to developing a methodology to do so, and will ensure alignment with the metrics used to measure unity at the basic education level.



Efficiency

EXHIBIT B-13
Higher education expenditure as a percentage of annual national budget¹
 Percent²



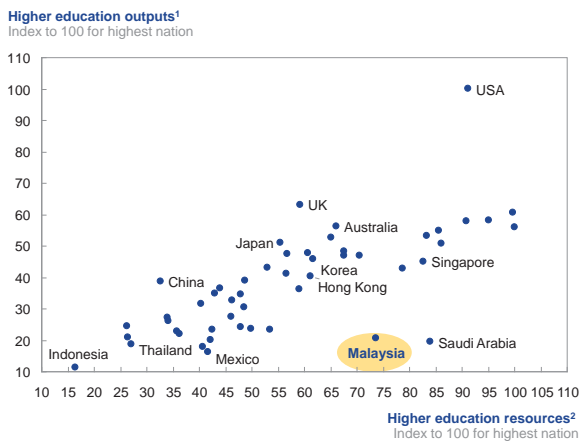
¹ Peers based on the following categorisation: Developed Asian economies (Hong Kong, Singapore, South Korea, Japan), SEA neighbours (Indonesia, Thailand, Singapore) and comparable GDP per capita (Chile, Mexico).
² Latest data available: Singapore (2013), Chile, Hong Kong, Indonesia, Japan, Thailand (2012), Malaysia, Mexico, Korea (2011).
 SOURCE: UNESCO

Outputs must rise to match the level of resources committed

Efficiency refers to the outputs realized relative to the resources committed. As shown in Exhibit B-13, Malaysia is deeply committed to higher education and invests more in higher education than its peers, relative to GDP. According to UNESCO benchmarking, at 7.7%, Malaysia's higher education expenditure as a percentage of government expenditure is the highest among its peers.

However, the outputs of Malaysia's higher education system do not yet match the high level of resources committed. Exhibit B-14 compares output to resources committed for the 50 nations in the U21 Report. Malaysia ranked 12th out of 50 for resources committed to higher education, and first when adjusted for economic development. However, Malaysia ranked 44th out of 50 for outputs of higher education, such as institutional rankings, graduate employability rates, and research output. Addressing this gap is critical to Malaysia's future growth and development.

EXHIBIT B-14
Comparison of higher education outputs to resources committed for 50 nations



¹ Output rating according to Universitas 21 report methodology: Weighted average of university ranking measures, article publication measures, research excellence measures, enrolments as a % of eligible population, unemployment rates for tertiary qualified graduates.
² Resources is a weighted average of five measures: Government spend on university education as a % of GDP, total spend on university education as a % of GDP, annual expenditure per student by university institutions, expenditure by university institutions on R&D as a % of GDP, expenditure by university institutions on R&D per head of population.
 SOURCE: Universitas 21 Report



Conclusion

The Malaysian higher education system has come a long way and has grown rapidly over the past few decades. By establishing public and private HLIs, and providing several pathways to education, along with the necessary financial support, a greater number of Malaysians now have access to higher education. Despite the resources it has invested and the achievements it has recorded, Malaysia must still deal with the challenges presented by non-stop, rapid changes in education locally and globally. To stay relevant and competitive, it must continuously assess the state of Malaysian higher education and its value to the nation. Equally important, Malaysia must ensure its investment in higher education generates the desired outcomes.

Chapter

C

Vision and Aspirations

The Malaysia Education Blueprint 2015 - 2025 (Higher Education) hereafter known as the MEB (HE) sets out to transform the higher education system of Malaysia, from 2015 to 2025. It builds on the strong foundations of previous efforts to improve the higher education system, and aspires to develop learned, values-driven talent who will contribute to the nation's development. The Malaysian higher education system and higher learning institutions (HLIs) are entrusted with the stewardship of Malaysia's greatest resource—the next generation of Malaysians. While the higher education system and institutions of Malaysia have come a long way, almost all stakeholders agree that much more can and must be done for the higher education system to live up to the ambitions and aspirations of all Malaysians. The state of the overall education system today is the best predictor of Malaysia's competitiveness tomorrow.

The aspirations for the transformation of the education system comprise two aspects: firstly, those for the education system as a whole, and secondly, those for individual students. The aspirations for the higher education are anchored in Malaysia's national context, as well as to the aspirations set out in the Malaysian Education Blueprint 2013-2025 (Preschool to Post-Secondary Education), hereafter known as the MEB, in order to ensure a seamless integrated vision of a future education system that all Malaysians can be proud of. This chapter defines five system aspirations: access, quality, equity, unity, and efficiency. It also defines six primary attributes for individual students: ethics and spirituality, leadership skills, national identity, language proficiency, thinking skills, and knowledge.

What is the New Academia?

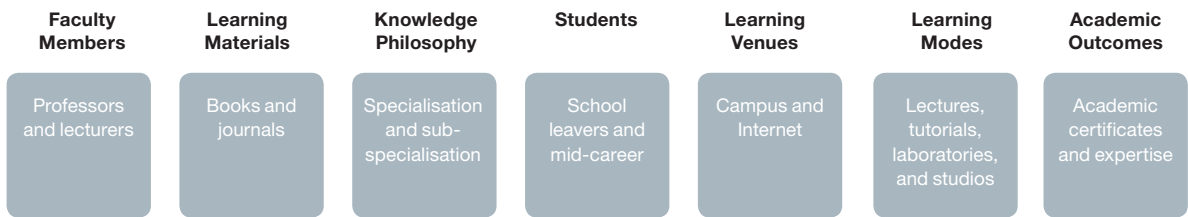
As the world changes, with the accelerating pace of globalisation, demographic shifts, and technological development, the world of academia needs to change along with it. The entire framework of academia and higher education in general—how it is structured, presented, and viewed—must undergo a major, comprehensive, and urgent transformation to embark on a New Academia. This is already starting to happen globally. New Academia means changing the image, identity, practices, philosophy, roles, funding approach, learning models, and even the very definition of higher education.

The role of academic staff is being expanded from the traditional elements of research and teaching to a broader and more

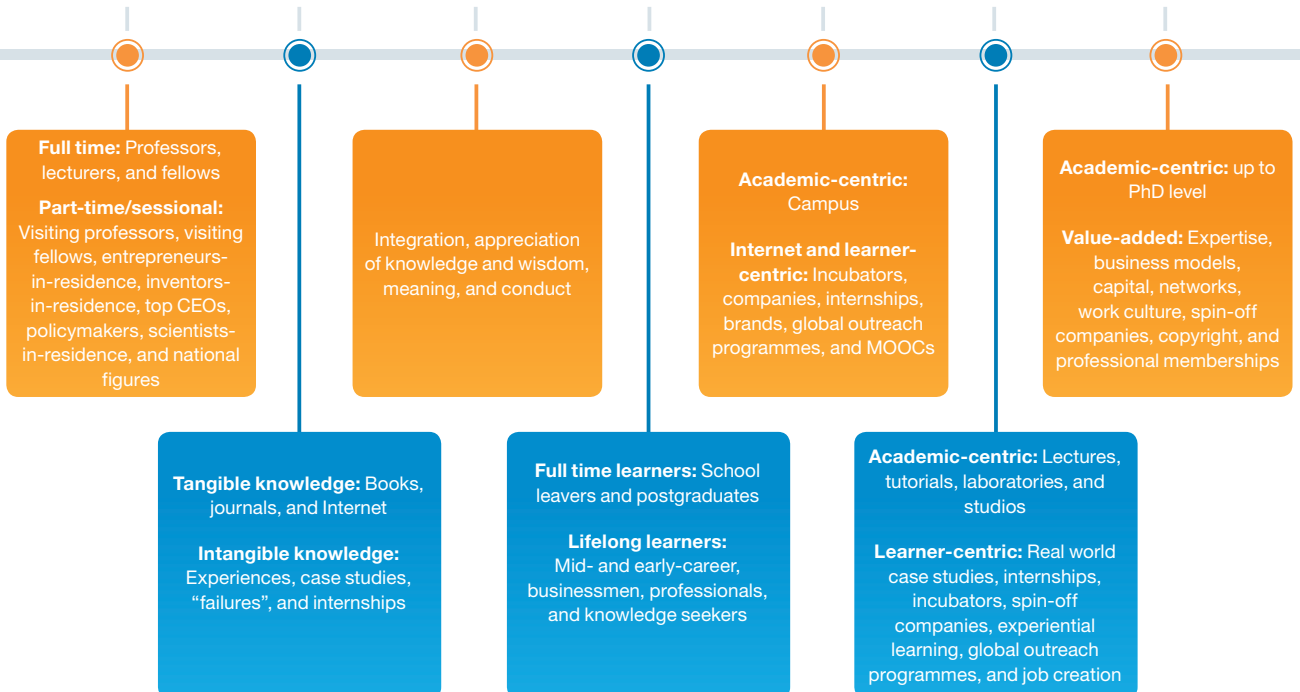
meaningful definition encompassing all elements relating to the discovery, integration, interpretation, and application of knowledge. The definition of scholarship is expanding from peer-reviewed publications, to also include educational materials, policy statements, assessment tools, and practice guidelines. The new academic environment places greater value on entrepreneurship, on being demand-driven, and on deep insights into the local or national context. This New Academia is driven by academic excellence in all its forms and by a deep knowledge culture resulting from a profound understanding and sincere appreciation of knowledge. It involves not just the faculty in an institution, but the entire academic community and its broader network.

FEATURES

Conventional Academia



New Academia

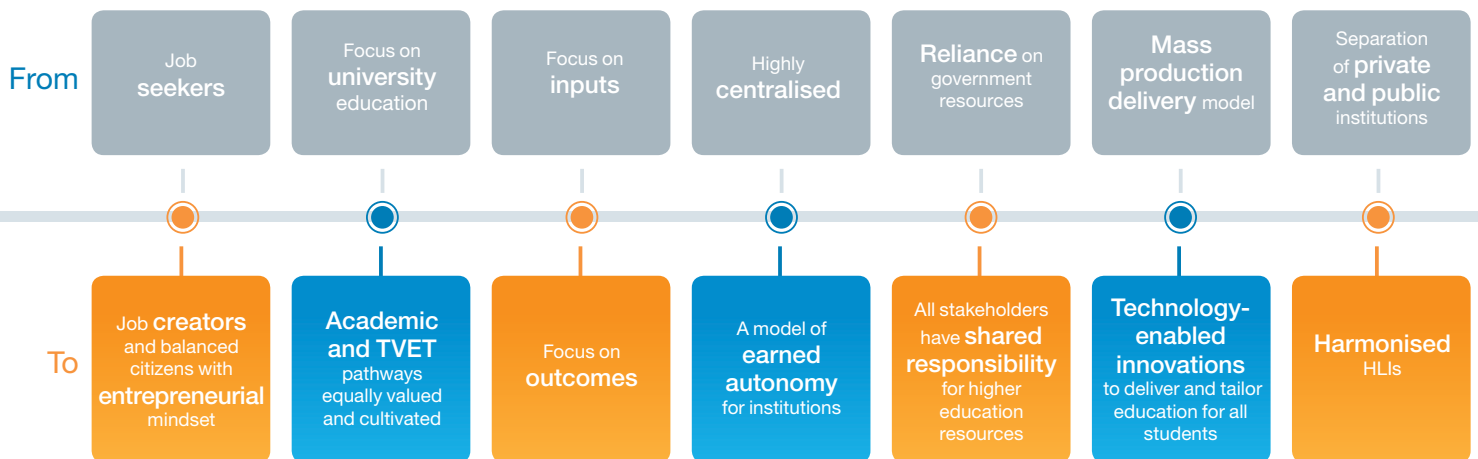


How will the new higher education system operate?

The MEB (HE) envisions significant changes in the way the Malaysian higher education system will operate in the next decade. It will place different demands on all stakeholders, and will represent major changes in behaviours, mindsets, and outcomes.

The Malaysian higher education system will change from developing graduates who are job seekers to ones who are job creators and balanced citizens with an entrepreneurial mindset. This is very much

in tandem with the concept of the New Academia. The system will also change from focusing on university education as the pathway of choice to placing an equal value on both university education and technical and vocational education and training (TVET) pathways. Likewise, the system will move from its traditional focus on quality and quantity of inputs to a focus on outcomes and performance. From a governance perspective, institutions will move from a highly centralised model to earned autonomy with clear accountability.



The MEB (HE) will generate major shifts in the way we operate

From a funding perspective, institutions will move away from a heavy reliance on government resources to having all stakeholders sharing responsibility and contributing towards the future of the education system. The mass production delivery model of higher education will evolve to a mass customisation model where technology-enabled

innovations are able to deliver and tailor education to unprecedented numbers of students. The perceived separation of public and private institutions will also move towards an integrated, harmonised higher education system where the quality of the institution transcends the type of institution.

What are the aspirations for the system?

The system aspirations for the higher education system are in alignment and consistent with the system aspirations in the MEB. The five system aspirations cover access, quality, equity, unity, and efficiency. These aspirations have emerged from the body of historical education reports, and remain as relevant today as when they were first conceived in the Malaysian national context. Each system aspiration also has corresponding key indicators which the Ministry of Education (the Ministry) will use to track progress and communicate regularly to stakeholders and the public.

ACCESS

At the preschool, primary and secondary education level, the Ministry defines access as making enrolment universally available, and ensuring all children receive at a minimum 11 years of schooling, in order to ensure that they have a strong starting point in life. The Ministry's ultimate aspiration is to get universal enrolment for all children from preschool through to upper secondary school level by 2020. At the higher education level, access to further study is dependent on students meeting certain entry requirements. Additionally, the Ministry needs to balance the provision of student access with programmes that best fit their interests and unique talents, as well as with the need to build talent in priority disciplines and fields for the country.

The Ministry aims to expand higher education enrolment over the course of the next decade. The exact nature of the expansion in terms of both quantity of seats and profile of programmes will be determined in close collaboration with industry to ensure that supply matches demand.

If Malaysia were to aspire to develop one of the most educated and skilled workforces in the region, its higher education enrolment rate would need to rise from 48% in 2012 to 70% by 2025¹, and similarly, its tertiary education enrolment rate from 36% in 2012 to 53% by 2025. This scenario would involve an additional 1,100,000 new places, which is almost two times the increment seen over the last 10 years, and would bring Malaysia on par with top enrolment rates today among ASEAN nations.

Given the structure of the Malaysian workforce, a high proportion of the increase in seats under this scenario would likely come from TVET programmes. Private HLIs and new online learning models would also likely need to play their part in delivering the increase in undergraduate seats. Public universities would then focus their efforts on increasing postgraduate enrolment. For example, an increase in Masters and PhD programme enrolment from 4% in 2012 to 8% by 2025 with an additional 170,000 new places, would in effect elevate Malaysia's postgraduate enrolment rates to be on par with the top enrolment rates today among it ASEAN neighbours.

¹ Tertiary Education is defined as International Standard Classification of Education (ISCED) level 5 covering Diploma, Advanced Diploma, Postgraduate Diploma, Professional Certificate, Bachelors, Master's and PhD programmes. Higher Education is defined as ISCED level 3 and above, and also includes STPM, Matriculation, Foundation, Pre-diploma, Pre-University and Post-Secondary non-tertiary programmes.

QUALITY

All students should have the opportunity to attain an excellent education that is uniquely Malaysian and comparable to high-performing education systems globally. The education system will allow students to maximise their potential and provide them with the ability to compete in the world today, as well as adapt and thrive in the world of tomorrow. At the primary and secondary education level, Malaysia's aspiration is to be among the top third of countries in international assessments such as the Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) by 2025. At the higher education level, Malaysia's aspiration covers three aspects: quality of the overall system, quality of institutions, and quality of graduates.

Based on the Universitas 21 (U21) Report, Malaysia currently ranks 36th out of 50 in terms of research output, and based on the QS World University Rankings, one Malaysian university is ranked within the top 200 globally. There are also more than 108,000 international students in Malaysian HLIs as of 2014, and the graduate employability rate is at 75% as of 2014.

Accordingly, the Ministry will evaluate its higher education system quality aspiration against the following three aspects:

- **Quality of the system:** Malaysia to be ranked in the top 25 countries for research output based on U21 rankings, with 250,000 international students by 2025.
- **Quality of the institutions:** One Malaysian university to be ranked in the top 25 in Asia, two universities to be ranked in the top 100 globally, and four universities to be ranked in the top 200 by 2025 (according to QS World University rankings).
- **Quality of graduates:** Graduate employability to be increased to more than 80% by 2025.

The Ministry acknowledges that the true merit of a university is not based solely on rankings, but also on its culture of knowledge development, and the depth and vibrancy of its academic community. Nonetheless, rankings can be useful to heighten the global visibility of Malaysia's HLIs and to put Malaysia on the map as an international hub of educational excellence. Rankings can also increase the employment opportunities of graduates and public awareness of Malaysia's ability to produce professionals with the mental acuity, knowledge and skills to grow Malaysia's economy.

EQUITY

Today, socio-economic status remains one of the biggest determinants of educational outcomes in primary, secondary, as well as higher education. Malaysia aspires to provide an equitable education system for all Malaysians. This does not mean ensuring identical outcomes for students, but rather ensuring that students—regardless of ethnicity, geographical location, or socio-economic background—have the opportunity to fulfil their potential. Similarly, the Ministry recognises the importance of providing equitable access to educational opportunities for students with special needs due to disabilities.

The Malaysian education system must actively support social mobility by ensuring that a student's socio-economic background will no longer determine whether or not he or she succeeds in life. The Ministry aspires to reduce the primary and secondary education achievement gap (urban/rural, socio-economic, and gender) by 50% by 2020.

Data is not yet available to accurately assess socio-economic equity in the Malaysian higher education system. As such, under the MEB (HE), the Ministry will commence regular data collection to allow the measurement and comparison of student outcomes from various demographic groups. The Ministry will regularly review student outcome data on performance gaps, and is committed to improving the enrolment rate and completion rate of students from socio-economically disadvantaged backgrounds and communities.

UNITY

Given Malaysia's multi-ethnic heritage, the Ministry aspires to create an education system that provides students with shared values, shared experiences, and common aspirations by embracing diversity. The education system will embrace all backgrounds, and promote understanding and appreciation of all cultures.

There is currently a lack of robust data or a definitive measure of unity for primary, secondary and higher education systems. As such, a new methodology will be developed to assess indicators of unity, including the degree of general trust among ethnic groups, the extent of religious and racial tolerance, and social interaction between students of different communities. The goal is to develop talent that can contribute towards creating a cohesive society from among diverse communities, whether in neighbourhoods, local communities, schools, universities, or workplaces.

EFFICIENCY

The Ministry is focused on ensuring an appropriate return on investment (ROI) in education. Student outcomes must be maximised for every ringgit spent. As with all other government bodies, the Ministry is committed to prudent, careful management of funding, and to significantly improving student outcomes within budget constraints.

At the higher education level, where education is not compulsory, the Ministry will focus on improving the **efficiency and productivity of higher learning institutions**. Specifically, the Ministry will seek to produce larger numbers of graduates at the same cost, but without compromising on educational quality or restricting access to eligible students. For example, the cost per student and the cost per graduate in the higher education system will be closely monitored. Today, the cost per student across public universities is around RM 18,000 annually.

The focus will be on the **overall efficiency of the education system**. Specifically, Malaysia will assess the efficiency of resources committed through the U21 measure, where Malaysia placed 12th out of 50 countries on resources committed to higher education, but placed 44th out of 50 countries on higher education output.

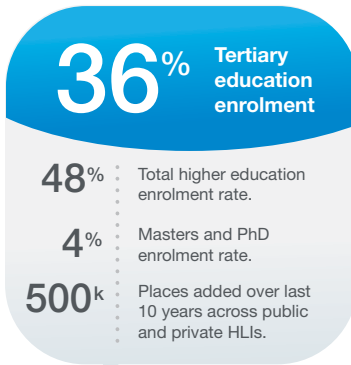
The Ministry aspires to expand enrolment in the higher education system, to raise quality, and improve student outcomes. At the same time, the Ministry aims to place Malaysia in the top 25 countries by 2025 on higher education output in the U21 measure, which includes aspects such as research, enrolment, employability, and institution rankings.

What are the aspirations for the system?

SYSTEM ASPIRATIONS

2014
Current position

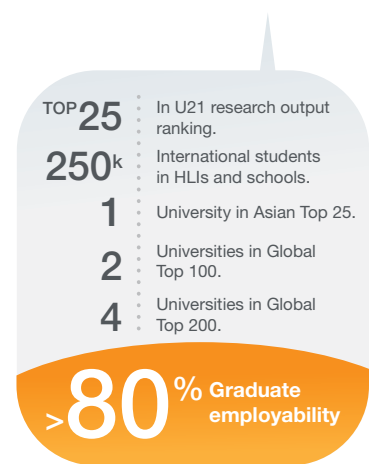
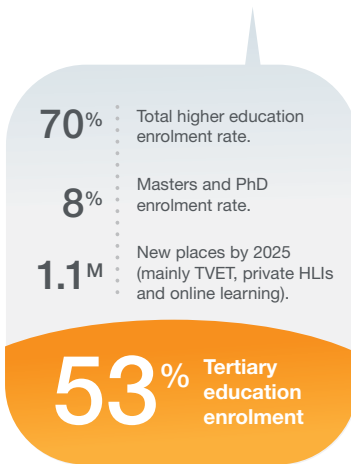
ACCESS²



QUALITY



2025
Aspirations



² Percentage of relevant 5-year age group enrolled; 2025 aspirations include projected population growth of 1.4% p.a. (same rate as 18-22 year olds for 2009-2012).

³ Graduate employability has been increasing from 70% in 2006, to 75% in 2014.

⁴ Research output measures: Rankings of top 3 universities, articles published, number of researchers, average article impact.

EQUITY

Aspiration to provide an equitable education system where all Malaysians have the opportunity to fulfil their potential regardless of ethnicity or socioeconomic background.

Students from disadvantaged socioeconomic communities not under-represented in higher education enrolment.

No under-representation

UNITY

Aspiration to create an education system that provides students with shared values, shared experiences, and common aspirations by embracing diversity.

Mix of ethnicities in HLIs are representative of overall population. A new methodology will be designed to assess unity.

Full representation

EFFICIENCY

RM **20.7^k**

Government Spending per student in public institutions

44th Out of 50 countries in U21 **output⁵** ranking.

12th Out of 50 countries in U21 ranking on **resources** committed to higher education.

25th or better in U21 **output⁵** ranking.

Maintain
 government spending per student in public institutions

(increase by inflation)

⁵ Output measures include research, enrolment, employability and rankings measures.

What would it take for higher education enrolment to be among the highest in ASEAN?

2012

Current level of 36% tertiary enrolment
(1.4M students⁶
48% higher education)

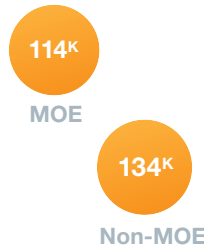
Private HLIs



Public Universities



TVET Institutions



Other Ministry Institutions⁷

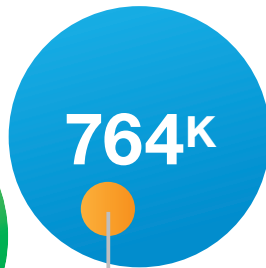


ANNUAL GROWTH

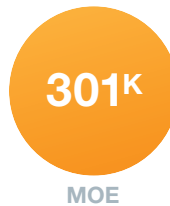


2025

Projected level of 53% tertiary enrolment
(2.5M students⁶
70% higher education)



TVET enrolment

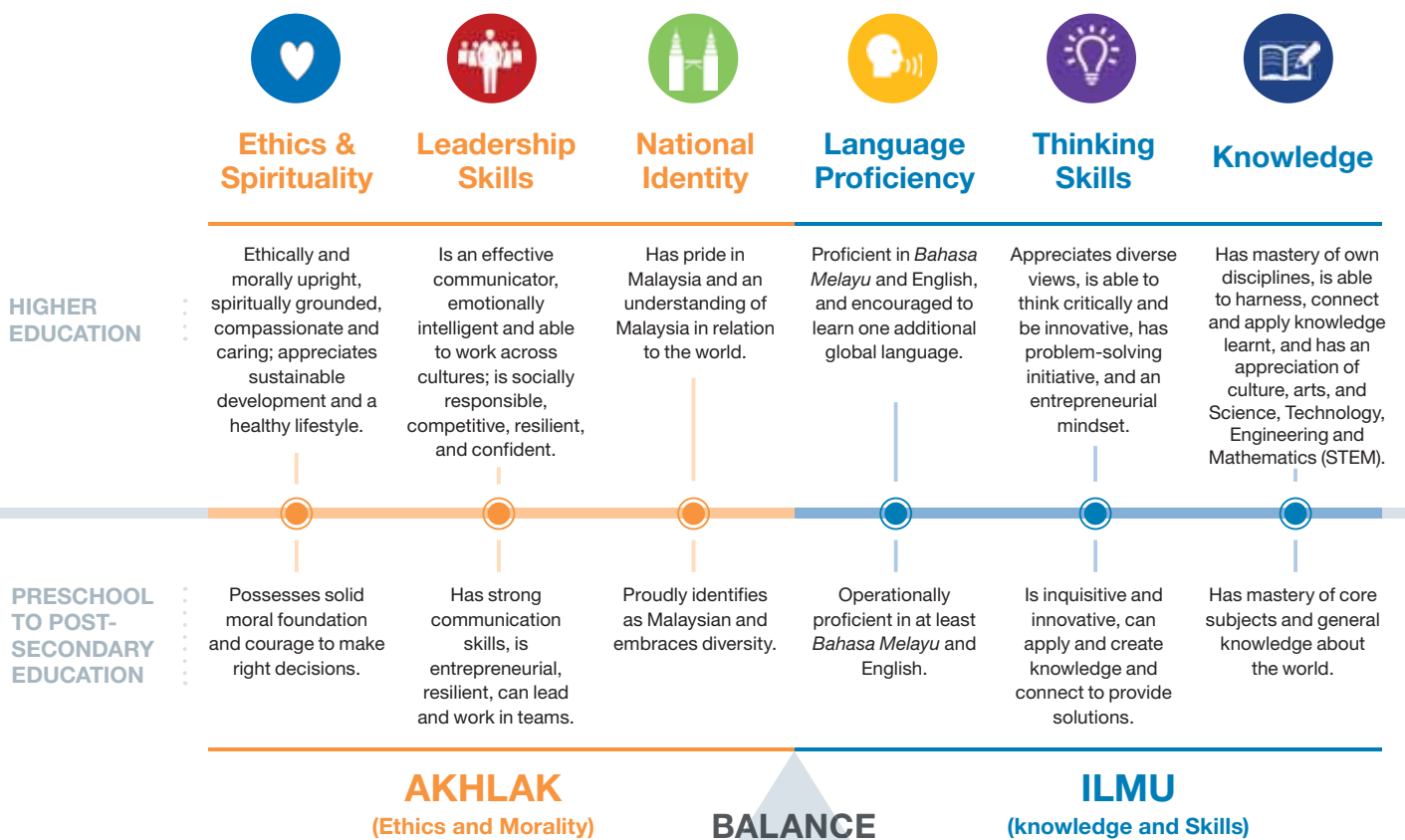


The Ministry aims to expand higher education enrolment over the course of the next decade. The exact nature of the expansion in terms of both quantity of seats and profile of programmes will be determined in close collaboration with industry to ensure that supply matches demand.

⁶ Includes foreign students in Malaysian institutions (97,000 in 2012 and 250,000 in 2025)

⁷ Includes Malaysia Institute of Teacher Education (IPGM) and Matriculation

What are the aspirations for individual students?



The Ministry of Education will continue to use the National Education Philosophy's vision of a balanced education as its foundation for individual student aspirations. The Preschool, primary, secondary, and higher education systems share a vision of what the outcome of a Malaysian education should look like and what that means for individual students. The Ministry emphasises the balance between

both knowledge and skills (*ilmu*) as well as ethics and morality (*akhlak*). The student aspirations in the MEB are built around six primary attributes: ethics and spirituality, leadership skills, national identity, language proficiency, thinking skills, and knowledge. These are the same six attributes for students that the higher education system is anchored on.

What are the 10 Shifts needed to transform the system?



Overview of the 10 Shifts

The Ministry is committed to 10 Shifts that will spur continued excellence in higher education, and help Malaysia achieve its aspirations for the system and for each student. These 10 Shifts apply to all institutions in the higher education system—both public and private. All 10 Shifts are anchored in desired outcomes of the higher education system for Malaysia, and were identified based on three perspectives:

- **Performance issues** in Malaysian higher education, such as the need to ensure a better and more consistent quality of education for students, as well as the need to improve returns on investment;
- **Best practices** of successful higher education systems, such as their focus on attracting quality participants (academic staff, students, researchers), and on creating a healthy ecosystem that supports them; and
- **Global trends** that are disrupting the higher education landscape, such as the unprecedented internationalisation of higher education, and new digital technologies.

The first four Shifts focus on **outcomes** for talent in the higher education system, including students in both the academic and TVET pathways, the academic community, as well as all Malaysians participating in lifelong learning. These key players collectively represent the ideals of “learned, values-driven talent”. The other six Shifts focus on **enablers** for the higher education ecosystem, covering critical components of higher education such as funding, innovation, governance, online learning, global prominence, and delivery.

1 Holistic, Entrepreneurial and Balanced Graduates

The Malaysian higher education system aims to develop holistic, entrepreneurial, and balanced graduates in line with the National Education Philosophy. This Shift outlines the curriculum and learning support changes that would be required to develop graduates would have relevant and appropriate disciplinary knowledge and skills (*ilmu*), ethics and morality (*akhlak*), along with the right behaviours, mindsets, cultural and civilisational literacy (*beradab*). This will allow Malaysian graduates to advance to a high level of personal well-being, and enable them to contribute to the harmony and betterment of the family, society, nation, and global community.



Talent Excellence

The quality of a higher education system relies on the quality of its institutions, which is determined by the quality of the talent it can attract, develop, and retain. This Shift focuses on improving the quality and diversity of the critical talent within the system to ensure that they are relevant, referred, and respected. It covers different forms of academic excellence and differentiated career pathways, such as for teaching, research, practice, or institutional leadership. It also redefines what excellence means for public universities, and private universities and university colleges, and encourages HLIs to aspire to different forms of excellence whether in overall research, niche areas of research, or in teaching and instruction.



3 Nation of Lifelong Learners

As Malaysia moves towards becoming a high-income economy, the demand for highly-skilled workers will continue to increase. In addition, Malaysia will need an adult population that has access to effective and ongoing educational opportunities. This Shift builds on the early progress that has been made since the Blueprint on Enculturation of Lifelong Learning (LLL) was launched in 2011. The Ministry aims to enculturate the practice of lifelong learning into Malaysian society in order to establish learning and relearning as an integral part of Malaysian culture and a Malaysian way of life. This will be achieved and catalysed through a high-quality, well-coordinated, harmonised, and respected LLL system with learning communities in every organisation.



Quality Technical and Vocational Education and Training (TVET) Graduates

Malaysia seeks to expand student enrolment in TVET over the next decade to support the Government’s push for more medium- and high-skilled workers under the Economic Transformation Programme (ETP). This chapter describes the Ministry’s aim to be a premier higher education TVET provider that develops skilled talent to meet growing and changing industry demands, and promotes individual opportunities for career development. The exact nature of the student enrolment expansion in terms of both quantity of seats and profile of jobs will be determined in close collaboration with industry to ensure supply matches demand.



5

Financial Sustainability

Financial sustainability is critical for higher education. Globally, there is an increasing emphasis on value for money in higher education with rising costs of delivery and budget constraints. The Ministry aims to establish a new, more sustainable financing system for Malaysia's higher education that is focused on affordability for students, outcomes, and performance, where stakeholders in public, private, and social sectors all contribute. This will involve continued government investment of a large portion of the national budget into the higher education system; greater diversity in sources of funding for HLIs, with more prudent and innovative use of their resources; and more targeted support for socio-economically disadvantaged students to ensure access to higher education to everyone who is eligible.

7

Innovation Ecosystem

Innovation ecosystems enable the quadruple helix of academia, industry, government and community to pool resources and partner to incubate, develop, and commercialise ideas. While Malaysia has made great strides in terms of its quantity and quality of research, more can be done to intensify both university-driven and demand-driven models of commercialisation. The Ministry will therefore pursue three strategies: (1) be focused by prioritising a few strategic research areas of national importance; (2) be catalytic by facilitating greater private investment and involvement; and (3) be supportive through services such as technology transfer offices that enable the commercialisation of products and solutions.

6



Empowered Governance

Higher education systems globally are moving towards higher degrees of autonomy with the aim of driving greater efficiency, innovation, and responsiveness of HLIs. Whilst Malaysia has made progress on this front, this Shift covers the move towards greater empowerment in the overall governance of the higher education system which will combine greater levels of autonomy with greater accountability for HLIs. The Ministry aims to develop a portfolio of fully-autonomous and semi-autonomous HLIs based on readiness and capacity for decision-making. These HLIs will operate freely within the regulatory framework established by the Government. This chapter will outline how the role of the Ministry will transition from a "tight controller" role to "regulator and policy-maker" role.

8



Global Prominence

Higher education is a major economic driver for Malaysia and the education sector has a high economic multiplier effect. The Ministry aspires to develop Malaysia into an international education hub with a difference, which is valued by students for its competitive advantage in providing value-for-money higher education, which balances quality, affordability, and liveability in Malaysia, with the added value of rich cultural experiences. This includes the continuous expansion of Malaysia's capacity in hosting international students for higher education, with a target of 250,000 international student enrolment by 2025.

9



Globalised Online Learning

Higher education globally is undergoing significant disruption from new digital technologies and new delivery models. This chapter highlights key requirements for the future of online learning in the Malaysian higher education system. Malaysia aspires to be a premier education hub supported by globalised online learning (GOL) platforms. These platforms will improve access, equity and quality of education for Malaysians, as well as for the global community. They will also support more efficient course delivery, enhance Malaysia's global education brand, and provide more visibility and prominence for Malaysian HLIs, especially in niche areas and specialisations.

10



Transformed Higher Education Delivery

The MEB (HE) outlines how a new, more focused role for the Ministry of Education will translate into a different delivery approach. This chapter covers the transformation and restructuring of the Ministry organisation, the harmonising across public and private HLIs, the streamlining of performance management, and quality assurance processes. Critical student-facing processes will also see enhancements, especially with student admissions, external communications by the Ministry, and international student experiences. It also outlines how the Ministry will drive delivery of initiatives outlined in this blueprint, as well as the introduction of “playbooks” on important best practices to support university transformation programmes across HLIs.

Conclusion

The Ministry aims to provide an education of international standards to students through a single, seamlessly integrated system that guides students from preschool to tertiary education and beyond. The national education system will take students from “cradle to career”, help them achieve their potential, inculcate a love for lifelong learning, make them globally competitive, and prepare them for life.

The focus in preschool, primary, and secondary education is to produce well-rounded students who have mastered fundamental knowledge, skills, and attitudes, and are ready for higher education or basic entry into the work force. The focus in higher education is to develop learned, values-driven talent — professionals, researchers, educators, entrepreneurs, and innovators—who have an international outlook and can propel Malaysia's development forward. Curricula are designed with a more international focus, content is less standardised, and while the public sector remains a key provider, the private sector plays a larger role in delivery. Within this context, institutions require autonomy to thrive, with the Government monitoring quality and playing the role of regulator. In the integrated national education system, the ultimate aspirations are nonetheless the same—Malaysia needs talented individuals who can meet extraordinary challenges, with the right ethics and morality (*akhlak*) and knowledge and skills (*ilmu*) to adapt and thrive in an ever-changing world.

Shift

#

1



Holistic, Entrepreneurial and Balanced Graduates

Malaysia's vision for education is to develop holistic, entrepreneurial, and balanced individuals, in line with the National Education Philosophy. This vision is the foundation of the Malaysia Education Blueprint 2013 - 2015 (Preschool to Post-Secondary Education) hereafter known as the MEB. It aspires to offer students a holistic education that focuses on six primary attributes: ethics and spirituality, leadership skills, national identity, language proficiency, thinking skills and knowledge.

The Malaysia Education Blueprint 2015 - 2025 (Higher Education) hereafter known as the MEB (HE), builds on the vision and aspirations of the MEB to graduate students with the talent, skills, and knowledge needed to thrive in the 21st century. Indeed, the MEB (HE) places students at the heart of the entire education transformation journey. This chapter therefore outlines the strategies and initiatives the Ministry of Education (the Ministry) proposes to put in place to deliver an education that balances knowledge and skills (*ilmu*) with ethics and morality (*akhlak*), and that encourages students to develop an entrepreneurial mindset. It also sets out the Ministry's expectations for higher learning institutions (HLIs).

Why it matters

Box 1-1

National Education Philosophy

Education in Malaysia is an ongoing effort towards further developing the potentials of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious based on a firm belief in and devotion to God. Such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who possess high moral standards and who are responsible and capable of achieving a high level of personal well-being as well as being able to contribute to the harmony and betterment of the family, the society and the nation at large.

– Education Act 1996 –

The overriding mission of HLIs is to develop quality graduates who are holistic, entrepreneurial and balanced in their outlook on life. The following three issues make this critical.

Balanced graduates in the 21st century

Today's generation is faced with complex challenges, from global warming to economic crises, at a magnitude and scale never seen before. Successfully navigating these challenges will not only require graduates to have the right knowledge and technical expertise, but also the capacity to make ethical decisions and the resilience to deal with rapid change. Accordingly, the Ministry stresses the development of moral values, a strong national identity (*jatidiri kebangsaan*), cultural and civilisational literacy (*beradab*), self-awareness, and interpersonal skills. Its ultimate goal is to develop students with the ability to contribute to Malaysian society and actively participate in the global arena.

Mismatch of stakeholders' expectations

Graduates seek higher education to qualify for jobs that give them a good future, either as employees or as entrepreneurs. These challenges, which are not unique to Malaysia, are:

- **Mismatched expectations between educational institutions, students and the workplace.** The 2012 McKinsey study, *Education to Employment*, showed that over 70% of universities believe they have adequately prepared students for the workplace. In contrast, only 40% of employers and graduates believe students are adequately prepared for the workplace¹; and

- **Need to move from a job seekers' to job creators' mindset.** The Ministry data² published in 2012 showed that only 2% of the nation's graduates were self-employed or were running their own businesses upon graduation. Additionally, research indicates that up to 70% of jobs are created by small and medium scale enterprises³. Hence, to encourage more Malaysians to become entrepreneurs, it is essential to instill an entrepreneurial mindset amongst youth.

Preparation for future challenges

Higher education must prepare students not only for today's demands, but also for future challenges. For example, a recent study on job hopping showed that, on average, graduates will change jobs 10 or more times in their lifetime⁴ and that 65% of today's primary school students will be employed in jobs that do not currently exist⁵. Disruptive technologies such as advanced robotics, the internet of things, and the automation of knowledge work are expected to fundamentally reshape industries and economies. Given these changes, Malaysia needs graduates with transferrable skills such as critical and creative thinking, and a high degree of literacy in Science, Technology, Engineering and Mathematics (STEM). Malaysia needs graduates who have the necessary worldview and life-guiding principles, ethical and moral strength, and problem solving skills to deal with present and future demands. They must become lifelong learners who are motivated to continuously develop their knowledge and skills, think critically, and be open to change, new ideas and new ways of doing things. They must have the self-awareness to take charge of their own lives, and the leadership skills to shape the future of their communities.

¹ Mourshed, M. et al. (2012). *Education to Employment: Designing a System That Works*. McKinsey Center for Government. Retrieved from http://mckinseysociety.com/downloads/reports/Education/Education-to-Employment_FINAL.pdf.

² Ibrahim, M.D. et al. (2011). *Kajian Keberkesanan Program-program Keusahawanan di Institusi Pengajian Tinggi*. Universiti Malaysia Kelantan.

³ Lim, C., & Grant, A. (2014). *Unleashing Youth in Asia: Solving for the "Triple-E" challenge of youth: Education, Employment and Engagement*. McKinsey Center for Government.

⁴ Meister, J. (2012). *Job Hopping Is the 'New Normal' for Millennials: Three Ways to Prevent a Human Resource Nightmare*. Retrieved from <http://www.forbes.com/sites/jeannemeister/2012/08/14/job-hopping-is-the-new-normal-for-millennials-three-ways-to-prevent-a-human-resource-nightmare>.

⁵ United States Department of Labor. (1999). *Futurework: Trends and challenges for work in the 21st century*. Retrieved from www.dol.gov/dol/asp/public/futurework.

Where we are

This section examines the current state of the curriculum and support systems for learning at the Ministry and HLIs. It also examines the main challenges surrounding the development of key attributes such as entrepreneurship.

Desired learning outcomes

The Malaysian Qualification Framework (MQF)⁶ provides guiding principles for developing a curriculum that emphasises eight domains of learning outcomes (LOs) - statements of competency on what students should know, understand, and be able to do upon completion of a period of study. Box 1-2 illustrates how these MQF LO domains have been mapped to the nine Programme Learning Outcomes (PLO) domains specified by the Ministry's Department of Higher Education. All nine PLOs domains are aligned with the Ministry's aspiration of developing holistic, entrepreneurial, and balanced graduates.

While learning outcome statements for a programme of study are crafted based on these nine PLO domains, programmes must also conform to any additional learning outcomes set by relevant professional bodies, local and international. To achieve these PLOs, HLIs are expected to apply instructional approaches suited to the knowledge and skills being developed, and develop assessments that measure graduate performance in a holistic manner.

Support systems for learning

The entities listed in Box 1-3 support student learning through programmes such as finishing schools, entrepreneurial programmes, co-curricular and community engagement programmes, and career guidance programmes. To develop balanced graduates, the Ministry has also introduced a policy that requires all students to take compulsory courses under the Common Subjects or *Matapelajaran Umum (MPU)* Framework.

Right attributes to succeed

Despite various attempts to create a more holistic, entrepreneurial and balanced graduates, many believe that they are ill-prepared for the workforce and that their HLIs should have provided them with more relevant and appropriate skills. Surveys conducted by the Ministry⁷ and by JobStreet.com⁸ show that:

- About 45% of recent university graduates earned below RM1,500 per month in 2013. (While this may reflect a degree of underemployment, it could also be due to job market conditions. For example, starting salaries in some sectors, such as tourism and hospitality, tend to be based on the minimum wage, independent of the candidate's qualifications); and
- Top attributes sought by companies or industries when hiring graduates are English proficiency, good work ethics, and strong interpersonal skills.

Box 1-2

Programme Learning Outcomes (PLO) domains specified by the Ministry:

- Knowledge;
- Practical skills;
- Thinking and scientific skills;
- Communication skills;
- Social skills, teamwork and responsibility;
- Values, ethics, morals and professionalism;
- Information management and lifelong learning skills;
- Managerial and entrepreneurial skills; and
- Leadership skills.

⁶ The Malaysian Qualifications Framework (MQF) defines the standards and criteria for higher education qualifications, thereby serving as a basis for quality assurance. The Malaysian Qualifications Agency (MQA) is responsible for implementing the MQF.

⁷ Ibrahim, M.D. et al. (2011). *Kajian Keberkesanan Program-program Keusahawanan di Institusi Pengajian Tinggi*.

⁸ Ministry of Higher Education in Graduate Employability Blueprint. (2012).

Box 1-3

Existing entities in the Ministry and HLIs which support student development

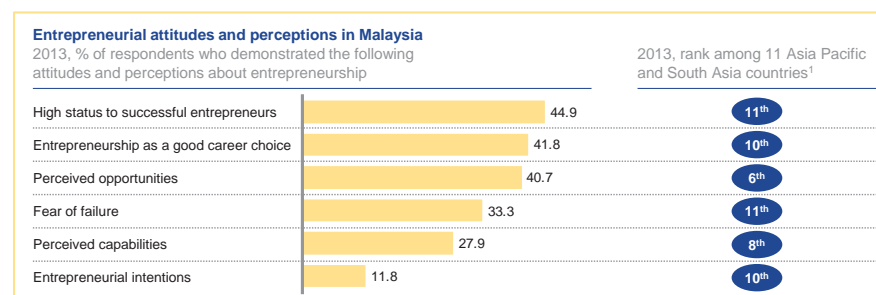
- Entrepreneurial Unit and Centres;
- Graduate Employability Unit;
- Sports Division and Centres;
- Academic Development Management Division;
- Student Development Division;
- Industry Relation Division;
- Centre for Academic Development;
- Centre for Co-curriculum;
- Centre for Job Placement;
- University Community Transformation Centre; and
- Yayasan Sukarelawan Siswa (YSS).

Entrepreneurial community

A Global Entrepreneurship Monitor (GEM)⁹ report shows that only 41.8% of Malaysians view entrepreneurship as a good career choice, as shown in Exhibit 1-1. Compared with 11 Asia Pacific and South Asian countries, Malaysia ranked lowest in ascribing high social status to successful entrepreneurship, and highest in fear of failure. This explains why Malaysia is lagging in entrepreneurship, particularly nascent¹⁰ and early stage entrepreneurship. The GEM report indicates that Malaysia's nascent entrepreneurship rate is the lowest among the 11 Asia Pacific and South Asia countries surveyed, and that its Total Early-stage Entrepreneurial Activity (TEA)¹¹ is the second lowest among the countries surveyed.

EXHIBIT 1-1

Entrepreneurial attitudes and perceptions for Malaysians compared to other countries



¹ Lower rank number means higher percentage of respondents who demonstrated each dimension of attitudes and perceptions about entrepreneurship, compared to other countries. Countries compared are Korea, Malaysia, Singapore, Thailand, China, India, Indonesia, Japan, Philippines, Taiwan, and Vietnam
SOURCE: Global Entrepreneurship Monitor (GEM), 2013 Global Report

Patriotism and unity in diversity

The Ministry also aspires to develop the spirit of patriotism and genuine love for Malaysia, an understanding of national aspirations, strong proficiency in the national language, *Bahasa Melayu*, as well as a sense of unity in diversity. Currently, there are efforts to promote patriotism and unity through MPU and co-curricular programmes focused on sports, community engagement and service learning. Nonetheless, more concerted efforts are needed at HLIs, especially in the delivery of such courses. HLIs need to use research-validated, learner-centered, instructional approaches that utilises Information Communication Technology as learning enablers. High Impact Educational Practices (HIEP)¹² such as experiential learning and service learning are particularly appropriate for developing national unity and 21st century competencies.

⁹ Amoros, J., & Bosma, N. (2013). Global Entrepreneurship Monitor 2013 Global Report. *Fifteen Years Of Assessing Entrepreneurship Across The Globe*. (pp 26). Retrieved from <http://www.gemconsortium.org/docs/download/3106>.

¹⁰ Ibid.

¹¹ Ibid.







¹² Kuh, G.D (2008). *High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter*. Association of American Colleges and Universities (AACU). Retrieved from <http://www.aacu.org/leap/hips>.

Objectives

This Shift aims to develop holistic, entrepreneurial, and balanced graduates in line with the National Education Philosophy. Such graduates would have relevant disciplinary knowledge and skills (*ilmu*), ethics and morality (*akhlak*), along with the appropriate mindsets, behaviors, cultural and civilisational literacy (*beradab*) to advance them to a high level of personal well-being, and enable them to contribute to the harmony and betterment of the family, society, nation, and global community. These qualities are reflected by six primary attributes—ethics and spirituality, leadership skills, national identity, language proficiency, thinking skills, and knowledge. The development of students' and graduates' attributes within the six domains is a continuum from basic education to higher education.

EXHIBIT 1-2

Student and graduate attributes

	 Ethics & Spirituality	 Leadership Skills	 National Identity	 Language Proficiency	 Thinking Skills	 Knowledge
Higher Education	Ethically and morally upright, spiritually grounded, compassionate and caring; appreciates sustainable development and a healthy lifestyle.	Is an effective communicator, emotionally intelligent and able to work across cultures; is socially responsible, competitive, resilient, and confident.	Has pride in Malaysia and an understanding of Malaysia in relation to the world.	Proficient in <i>Bahasa Melayu</i> and English, and encouraged to learn one additional global language.	Appreciates diverse views, is able to think critically and be innovative, has problem solving initiative, and an entrepreneurial mindset.	Has mastery of own disciplines, is able to harness, connect and apply knowledge learnt, and has an appreciation of culture, arts and Science, Technology, Engineering and Mathematics (STEM).
Preschool To Post-Secondary Education	Possesses solid moral foundation and courage to make right decisions.	Has strong communication skills, is entrepreneurial, resilient, can lead and work in teams.	Proudly identifies as Malaysian and embraces diversity.	Operationally proficient in at least <i>Bahasa Melayu</i> and English.	Is inquisitive and innovative, can apply and create knowledge and connect to provide solutions.	Has mastery of core subjects and general knowledge about the world.
	AKHLAK (Ethics and Morality)			ILMU (Knowledge and Skills)		
	BALANCE					

Principles

The strategies and initiatives defined in this Shift are driven and guided by the following principles:

- **Constructive alignment of curriculum design, delivery and assessment.** Curricula must be designed to achieve the desired outcomes, be delivered through constructively aligned and appropriate research-validated instructional approaches, be assessed with effective tools to determine how well students meet learning outcomes, and be supported by necessary interventions where appropriate;
- **Experiential learning.** Emphasis should be placed on the use of pedagogical approaches that are particularly effective for the development of ethics, moral values, entrepreneurial and soft skills, such as guided discovery and real-life immersion experiences;
- **Learned and values-driven students.** Education is not just about catering to the country's economic growth, but also sustaining the core values and cultural norms that unite the nation. Building an appreciation of Malaysia's history will further strengthen students' sense of national identity; and
- **Sustainable learning support system.** Good curriculum design can be successful only when complemented by an effective support system that is comprehensive and sustainable, and that encourages, facilitates, and reinforces the entire student learning process.



Strategies and initiatives

To achieve the objectives outlined in this Shift, the Ministry has developed two strategies, each with its own corresponding initiatives.

Strategy A: Developing holistic and integrated curriculum

HLLs are to develop constructively aligned, holistic and integrated curriculum that embeds HIEP, which encompasses cognitive and conceptual clarity, entrepreneurial skills, experiential learning, and innovation. The curriculum will be both student-centered and outcome-based. This means that the curriculum, learning experiences, and learning interventions must target:

- The advanced mastery of the discipline;
- The development of personal, interpersonal and social skills; and
- The habits and virtues of the mind and heart (*adab*).

Strategy B: Enhancing the learning support system

The Ministry and HLLs need to foster a productive learning support system. This includes measures to enhance the coordination of student development activities, develop a framework to encourage graduates to become job creators, and to recognise excellent teaching innovations.



The development of holistic entrepreneurial, and balanced graduates is a continuous process that starts from the basic education system.

Initiative A1

Enhancing curriculum

HLLs are to apply HIEPs that integrate a mixture of experiential learning and entrepreneurial immersion into the curriculum in ways such as:

- Introducing undergraduate 2+2 or a 3 +1 degree programmes that entail two or three years of on-campus learning and one or two years of off-campus or industry-based learning;
- Intensifying industry and community engagement to support the development of holistic, entrepreneurial, and balanced graduates;
- Complementing the MPU Framework by including generic cross curricula courses. Similar but more advanced courses must be instituted at postgraduate levels. Further enhancements modelled after liberal arts curricula in the context of US universities can also be explored by HLLs; and
- Improving the design of entrepreneurship courses by increasing the practical component of basic entrepreneurship courses, and introducing an entrepreneurship minor in academic programmes.

Initiative A2

Developing an integrated assessment

HLLs need to develop and implement a cumulative grade point average (CGPA) system that is not focused solely on academic outcomes, but reflects the holistic and balanced mastery of knowledge and soft skills such as:

- Integrated thinking skills and knowledge culture;
- Language proficiency (such as in *Bahasa Melayu*, English, and a global language);
- National identity;
- National unity;
- Leadership
- Problem-solving skills;
- Ethics and spirituality; and
- Entrepreneurial mindset and readiness.

Box 1-4

Science, Technology, Engineering and Mathematics (STEM)

The development of a strong STEM workforce and STEM literate society is critical for Malaysia's development into a high-income nation. The Ministry thus aspires to create:

- More graduates pursuing advance degrees and careers in STEM fields;
- Improved STEM literacy for all students;
- Improved STEM content knowledge; and
- Improved STEM pedagogical content knowledge.

Under the Global Science and Innovation Advisory Council (GSIAC) initiative¹, these goals will be achieved by nurturing students' interest in STEM from very early in their education. Starting with preschool, the focus would be to nurture, inspire and build interest; at the primary school level, the focus would be on building foundations; at the lower secondary school level it would be on enhancing STEM skills; at the upper or post-secondary school level, the focus would be to challenge and prepare; while at the tertiary level, it would be to advance and innovate.

Under the purview of the MEB, multiple strategies were introduced to strengthen the development of STEM graduates and students. They include improvement in curriculum, delivery, the training of teachers, career pathways and remuneration for staff in the field of STEM, and physical infrastructure.

The MEB (HE) emphasises the continuation of strategies started at the school level. The Ministry, for example, will continue to provide extensive scholarship support to students wishing to pursue postgraduate education in STEM fields. HLLs are also being encouraged to undertake their own measures to bolster the development of STEM at their institutions.

¹ Kertas Dasar, Mesyuarat Ketua Bahagian, KPM.(2014). *Pelaksanaan Pendidikan STEM di Bawah Inisiatif Global Science and Innovation Advisory Council (GSIAC)*.

Box 1-5

The “Upholding *Bahasa Melayu*, Strengthening the English Language” policy or *Memartabatkan Bahasa Melayu Memperkukuhkan Bahasa Inggeris (MBMMBI)*

The MBMMBI policy at primary and secondary education level encompasses a series of initiatives to support the development of both languages. For example:

- *Bahasa Melayu* is set as the medium of instruction in all national schools. For national-type schools, Chinese language and Tamil will serve as the medium of instruction. Efforts to develop *Bahasa Melayu* into a language of knowledge are also being intensified; and
- English teachers are being upskilled to ensure they have both the minimum language proficiency and the pedagogical skills to teach effectively. The Literacy and Numeracy Screening programme (LINUS) has been expanded to include English.

The MEB (HE) builds on the aspiration in the MEB that students will be operationally proficient in at least *Bahasa Melayu* and English. Additionally, the aspiration is that students will be encouraged to learn an additional global language.

The Ministry is moving towards empowered autonomy for HLIs, and will continue to encourage each HLI to decide on the best initiatives to ensure proficiency of graduates in *Bahasa Melayu* and English, and access to one additional global language. Where relevant, the Ministry will also implement guidelines including raising minimum English proficiency requirements for entry into university. Further, students must have improved their proficiency level in order to graduate.

Initiative B1

Enhancing coordination for student development

HLIs are to play greater and more coordinated roles in supporting student development. All entities in HLIs that engage students in academic programmes, community and industry engagement programmes, and sports and cultural programmes must integrate their activities with the overriding goal to develop holistic and balanced graduates. HLIs can support student and staff entrepreneurial development through their own business arms, such as university holdings or subsidiaries.

Initiative B2

Developing a job-creator framework

The Ministry will develop a job-creator framework to support and encourage more graduates to become job creators. The framework will be based on three important phases of students' entrepreneurial development, namely the three E's: (i) Enculturate—promote and acculturate the values of entrepreneurship across curriculum; (ii) Empower—provide entrepreneurial learning opportunities to students; and (iii) Equip—help students create and grow a business in order to become job creators.

Initiative B3

Recognising instructional excellence

The Ministry will encourage HLIs to recognise both individual and institutional excellence in instruction. Examples of criteria that could be considered are quality of teaching and learning, degree of character building particularly as it relates to patriotism and national unity, and national heritage preservation. Additionally, all the above initiatives point to an urgent need to realign existing orientation programmes for new staff (support, administrative and academic) and continuous professional programmes for junior and senior staff in a more constructive and integrated manner.

Box 1-6

What is experiential learning?

Experiential learning is a pedagogical approach that enables students to apply their theoretical knowledge to real-world problems and situations. This can be achieved through simulations and hands-on-activities in the classroom setting, such as with case studies, in laboratories, workshops, or out in the field, such as with internships, or clinical practice. Technical and vocational education and training (TVET) programmes tend to favour this pedagogical model, but this learning approach is also highly effective for students undergoing the academic pathway.

Experiential learning bridges the gap between theory and practice, and surveys of learners indicate that they have a strong preference for such hands-on and practical instructional models. Research has also proven that experiential learning is a powerful mechanism for increasing student motivation and creating self-directed learners¹. Accordingly, the Ministry is encouraging HLLs to experiment with and embed different forms of experiential learning in their programmes.

What is service learning?

Service learning is a form of experiential learning which occurs through a cycle of action and reflection as students apply what they are learning to address real community needs. For example, engineering students can work with the local community to improve its water and sanitation facilities. In requiring students to grapple with complex, real-life issues, and exposing them to multiple and perhaps unfamiliar perspectives, service learning challenges students to not just achieve real outcomes for the community but also to deepen their understanding of themselves and the community². Service learning differs from community service in that the latter is focused on meeting the needs of recipients, with little or no emphasis on the learning achieved by those providing the service.

Service learning is growing in popularity globally as a tool for building civic and democratic engagement. Service learning is often linked to “increasing students’ sense of social responsibility and citizenship skills such as religious

and racial tolerance ... the ability to work well with others, leadership and communication skills, and ... a sense of being able to effect change in their community”³. Additional positive outcomes that have been identified include increased academic engagement, knowledge retention and critical thinking.

Given Malaysia’s multicultural context, it is essential that our youth grow up with a strong sense of patriotism, unity, and national identity. Service learning offers Malaysian HLLs a proven path to developing such attributes, and fostering active citizens who have the compassion and courage to act for the betterment of society and the nation at large.

Student Volunteers Foundation

The Student Volunteers Foundation or *Yayasan Sukarelawan Siswa* (YSS) was established in 2011 as a wholly owned entity of the Ministry of Education. It is a student-led organisation that undertakes volunteer missions which are open to all students in Malaysian HLLs. The objectives of YSS include developing young volunteer leaders, inculcating a sense of care and commitment among students for the well-being of their local and regional communities, and building international relationships or networks in volunteerism. YSS adopts the service learning model, and their activities revolve around the concepts of immersion and building the right volunteers for the right job.

Student volunteers of YSS reflect the diversity of the Malaysian higher education student body. They come from various backgrounds, ethnicities, and fields of studies, and undergo training before being deployed in target communities. During missions, they eat, live, and work together in the field contributing to sustainable community development and humanitarian efforts. The range of YSS volunteer missions also cover education, community service, health awareness, agricultural development, technology and basic community hygiene. During the unprecedented flooding in the east coast of Peninsular Malaysia in 2014, YSS was part of the mobilisation of more than 50,000 student volunteers to serve in relief efforts across the east coast.

¹ Wurdinger, D. D., & Carlson, J. A. (2010). *Teaching for experiential learning: Five approaches that work*.

² Eyer, J. and Giles, D., (1999). *Where’s the Learning in Service-Learning?*

³ National Task Force on Civic Learning and Democratic Engagement. (2012). *A Crucible Moment: College Learning and Democracy’s Future*. Accessed via http://www.aacu.org/civic_learning/crucible/index.cfm.

Initiative implementation roadmap

The strategies and initiatives within this Shift have been carefully sequenced across three waves to avoid overtaxing the system, and to ensure each successive wave builds on the foundations laid previously. The planning, execution and monitoring of the implementation process will be conducted according to the proposed roadmap shown in the following Exhibit 1-3.

EXHIBIT 1-3

	Wave 1 (2015)	Wave 2 (2016-2020)	Wave 3 (2021-2025)
Strategy A Developing holistic and integrated curriculum	<ul style="list-style-type: none"> Introduce High Impact Educational Practices (HIEPs) and lessons on experiential learning and entrepreneurial immersion to public and private HLIs Initiate development of integrated assessment methodology led by pilot HLIs 	<ul style="list-style-type: none"> Introduce undergraduate 3+1 or 2+2 programmes with off-campus or industry-based learning Launch and implement integrated assessment system by HLIs Support HLIs in intensifying industry and community engagement efforts Facilitate HLIs in enhancing MPU framework by including generic cross-curricula and liberal arts courses; and Encourage enhancements in entrepreneurship programmes, especially practical components 	<ul style="list-style-type: none"> Refine and improve integrated assessment framework across all public and private HLIs Review and revise policies and guidelines to encourage and facilitate incorporation of 21st century skills into HLI curriculum Support HLIs in developing integrated curricula
Strategy B Enhancing the learning support system	<ul style="list-style-type: none"> Initiate development of Job-Creator framework in consultation with HLIs and entrepreneurs Review existing policies and guidelines to encourage and facilitate excellence in service and entrepreneurial learning Review and develop guidelines for supporting student activities (e.g. green lane policy for student-owned businesses) 	<ul style="list-style-type: none"> Launch Job-Creator framework across public and private HLIs to support students in creating and growing businesses Develop Unity Index or indicators and rollout across HLIs Introduce rewards and incentives for excellence in service and entrepreneurial learning 	<ul style="list-style-type: none"> Refine and improve Job-Creator Framework for HLIs Review effectiveness of Unity Index and improve for ongoing tracking Enhance recognition and best practice sharing of instructional excellence by individuals and institutions



Conclusion

The Ministry aspires to develop holistic, entrepreneurial, and balanced graduates in line with the National Education Philosophy. Such graduates would have relevant and appropriate disciplinary knowledge and skills (*ilmu*), and ethics and morality (*akhlak*), along with the appropriate mindsets, behaviours, cultural and civilisational literacy (*beradab*). To achieve these objectives, HLIs will develop holistic and integrated curricula that are student-centered and outcome-based, while the Ministry will collaborate with HLIs to enhance existing learning support systems. This is to ensure that Malaysia's graduates are able to thrive in today's complex and ever-changing world, and contribute to the harmony and betterment of the family, society, nation, and global community.

Tracking measures

The Ministry will track the progress and impact of this Shift against a set of outcome-based measures. These measures are not intended to be exhaustive and may evolve over time. Targets will also be set for each measure on an annual basis.

- **An integrated CGPA** that assesses holistic, entrepreneurial and balanced student development;
- **Graduate employment rate;**
- **Graduate self-employment rate.**
- **Employer satisfaction** with quality of graduates; and
- **Patriotism and unity** index amongst graduate.

Shift

#

2



Talent Excellence

Talent excellence refers to a community of scholars who are inspiring educators, accomplished researchers, entrepreneurial personalities, and transformational thought leaders. These are committed individuals who continually strive to raise quality standards, embrace professional development, initiate progressive teaching and learning, and excel in research and innovation. They are supported by well-trained, dedicated, and qualified administrative, technical, and support staff. This academic community will propel the institutions they serve to global prominence. It is through global prominence that institutions are then able to continually attract high quality international students, academic staff, funding, and research grants.

This chapter sets out how the Ministry of Education (the Ministry) and higher learning institutions (HLIs) will continue to build and strengthen the talent base of educators, researchers, institutional leaders, practitioners, and support personnel. It covers the different types of institutional excellence that public and private HLIs should aspire towards, the New Academia Talent Framework for attracting, retaining, and developing top talent, as well as the diversification and tailoring of new career pathways for academic staff.

Why it matters

The core functions of HLIs are to teach and develop talent, discover and share knowledge, and provide professional services to the community and industry. These institutions and the talent within must strive to excel and continue to be relevant, referred and respected in all these core functions.

Talent excellence as a critical contributor to institutional excellence

Clearly, there can be no excellent institution without excellent talent. The quality of teaching and instruction, as well as innovation in teaching methodologies, are critical contributors to the excellence of HLIs in their efforts to educate and develop the next generation of Malaysians. A critical mass of accomplished researchers within a HLI will enhance the research culture, stimulate investigation, enhance the discovery and sharing of new knowledge, and can help elevate research output and prestige. Distinguished academics are the embodiment of knowledge and are capable solution providers and problem solvers who can address the needs of the community and industry. An entrepreneurial mindset and culture among the academic staff are also important contribution towards institutional excellence.

Talent excellence as a magnet for other talent

A pool of transformational HLI leaders with the right mindsets,

behaviours, skills, and vision are necessary to drive the transformation of HLIs in Malaysia. These leaders are critical in leading an academic community in support of institutional excellence. More importantly, they are also able to identify, attract, develop, and retain outstanding local and global talent, deliver well on the core functions of HLIs, and lead their institutions towards regional and global prominence. Great academic talent energise their institutions by holding people to higher standards of performance and celebrate those individuals and teams that embody excellence, thereby creating a conducive and attractive environment which acts as a magnet for other great talent.

Talent excellence as a duty for all academic leaders

The role of an academic leader in talent development is just as important as his or her role in teaching and research. Each academic leader has a personal duty to nurture the character and capabilities of their students, to inspire them personally and professionally, and to make sure that their knowledge, talents and gifts are used and developed to their fullest extent. They have an institutional duty to grow a portfolio of academic leaders who will continue to drive growth and raise standards of Malaysian HLIs to deliver outstanding academic outcomes. Each academic leader also has a national duty to develop exceptional Malaysians who can move the country towards the aspirations set by the national mission and Vision 2020.



Where we are

The academic community in higher education is often a diverse group of people. They focus on different disciplines, perform different roles and functions, and excel in different aspects of academic life. The National Higher Education Strategic Plan or *Pelan Strategik Pengajian Tinggi Negara* (PSPTN) has delivered significant impact on talent excellence. Several challenges will need to be addressed to further improve talent in HLIs such as building the right talent ecosystem, strengthening organisational leadership and encouraging multi-track career pathways.

Inspiring educators

A faculty member at a HLI is not just a repository of knowledge and information, but also a guide, a friend, a motivator, a mentor and

a source of inspiration and wisdom. The current curriculum in the higher education system emphasises learning, but delivery remains predominantly teacher-centric. This tends to hinder opportunities for students to develop into innovative and higher-order thinkers. The focus should now be on developing students to become more independent thinkers and self-learners. The youth of today value practical, hands-on learning, which is interactive and experiential. This new reality will require all HLIs to address a set of common challenges because the curriculum needs to move from an emphasis on teaching towards maximising learning, and class delivery needs to move from the conventional teacher-centric model towards a student-centric model. The latest available technologies and the changing mindsets of current and future generations will continue to challenge the way curriculum is delivered.

Distinguished Professors (*Profesor Ulung*)

The Distinguished Professor or *Profesor Ulung* is the highest academic designation conferred upon academicians in Malaysia. Introduced by the Ministry in 2010, the title recognises distinguished individuals who are internationally-revered role models in their respective academic fields, have contributed heavily to Malaysian academia through research and academic-based advocacy, and have demonstrated extraordinary academic leadership. The conferee is expected to be not only an inspirational figure in academia, but also a thought leader on solving national and global challenges.

The appointment of a Distinguished Professor is based on four criteria, namely academic authority with distinctive and extraordinary attributes, scholarship based on impactful research and contributions to the community, proven intellect, and international recognition based in the form of prestigious awards.

Currently, four Distinguished Professors have been designated. They are Professor Datuk Dr. Harith Ahmad, Professor Datuk Dr. Shamsul Amri Baharuddin, Tan Sri Professor Dr. Mohd Kamal Hassan, and Professor Datuk Dr. Looi Lai Meng.



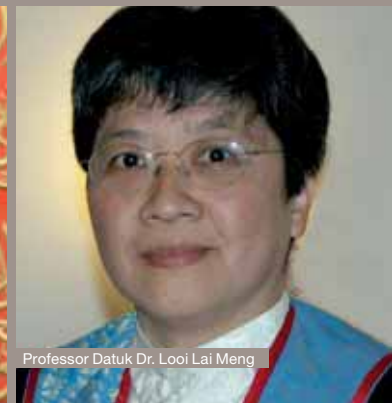
Professor Datuk Dr. Harith Ahmad



Professor Datuk Dr. Shamsul Amri Baharuddin



Tan Sri Professor Dr. Mohd Kamal Hassan



Professor Datuk Dr. Looi Lai Meng

Accomplished researchers

The inception of Malaysian Research Universities (MRUs) in 2007 has led to an exponential increase in the volume of research publications by HLIs during the 10th Malaysia Plan (2011-2015). The Ministry report on “Impact of Malaysian Research Universities as the Engine of Growth for Nation Building” highlights the significant progress made. For example in 2010, the total number of refereed scientific publications for Malaysia surpassed that of Thailand and Singapore, establishing Malaysia as a prominent centre for scientific research in the ASEAN region. This is a great recognition of the collective efforts and research excellence of local HLIs and local researchers. This growth in scientific research output demonstrates the continuing importance of MRU initiatives for Malaysian higher education talent and Malaysian HLIs.

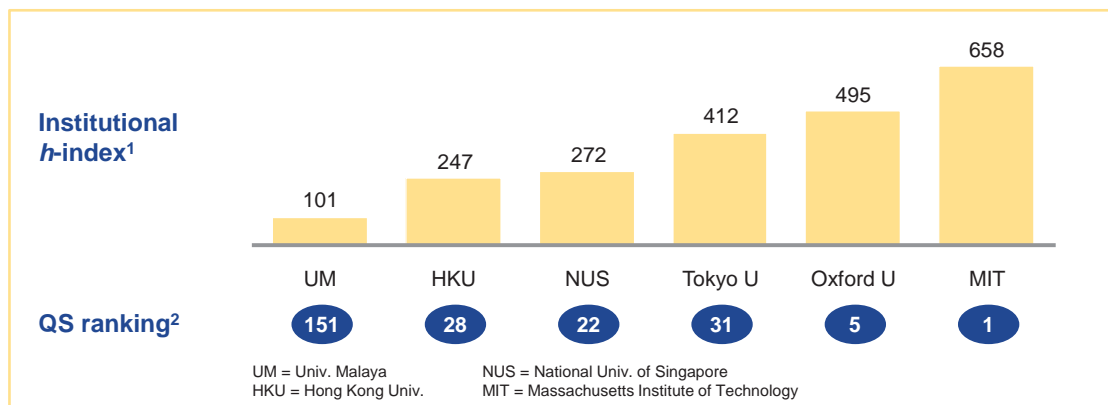
Excellence in research and of researchers is also linked to global prominence of universities as indicated by world university rankings. This can be seen in the relationship between the *h*-index¹ for leading regional and global HLIs and their positions in the QS World University Rankings² (see Exhibit 2-1). HLIs tend to have better ranking positions when they have higher *h*-index. Although Malaysian HLIs trail top Asian universities on the *h*-index, it should be noted that Malaysia only started its MRU agenda in 2006, while leading regional universities started their research university initiatives much earlier.

Transformational leaders

Leaders who can change can lead change. There is an increasing need to professionalise the management and administrative

EXHIBIT 2-1

Institutional rankings on the *h*-index



¹ The *h*-index attempts to measure both the productivity and citation impact of the published body of work of a researcher or an institution

² QS world top universities: <http://www.topuniversities.com/university-rankings/world-univer>

leadership of HLIs. The skills and capabilities required to succeed as an institutional leader are different from other academic roles. Other than that, there is a leadership gap across HLIs today. The PSPTN outlined five institutional pillars relating to academic talent, namely (i) governance, (ii) leadership, (iii) academia, (iv) learning and teaching, and (v) research and development. Thus, the *Akademi Kepimipinan Pendidikan Tinggi* (AKEPT) was established under PSPTN to grow and develop leaders in the academic community who can lead their respective teams, their departments, and institutions. Going forward, leadership development for higher education must be the collective responsibility by all higher education stakeholders.

Building the right talent ecosystem

Malaysia has had the highest growth rate in the world from 2009-2013 for referred scientific papers with a 20% cumulative annual increase. However, Malaysian HLIs need to further improve to be on par with other top universities in the world (see Exhibit 2-2), for example, by increasing the number of domain experts, including those with PhD qualifications, professional qualifications, and those with relevant industry or community experience. Building the right talent ecosystem also involves strengthening the overall academic community at all levels, including university board members, university leaders, department heads, as well as administrative and support staff. Each Malaysian HLI needs to create their own conducive environment with appropriate processes, incentives, and systems to identify, recruit, develop, and retain the right talent.

Strengthening organisational leadership

Malaysian HLIs need more leaders at all levels. More department heads and research heads with high international standing and reputation are needed. More university board members, top management members and senior institutional leaders such as Vice-Chancellors or Presidents, Deputy Vice-Chancellors or Vice Presidents, Registrars or Chief Operating Officers, Treasurers or Chief Financial Officers, with outstanding professional, administrative skills and academic leadership experiences are

needed. More transformational leaders are needed with the skills and will to help their organisations adapt to new challenges. Academic leaders are entrusted with their positions because they are believed to have the necessary knowledge, integrity, passion, sense of duty, motivational skills, and resilience to create breakthrough performance and results. HLIs need to create a framework or leadership model to attract transformational leaders with the skills and will to help their institutions adapt to new challenges and drive performance. This includes more robust and effective succession planning for HLI leaders, and developing an entrepreneurial leadership mindset among academics and staff at all levels.

Encouraging multi-track excellence

At present, multi-track career development and cross-institutional academic mobility are implemented sporadically in Malaysian HLIs. Multi-track talent development in HLIs refers to academic staff who are able to choose to advance their careers and excel through focusing primarily on (i) teaching, (ii) research, (iii) professional practice, (iv) institutional leadership, or administrative management. Malaysian HLIs will need to increase recognition of different types of talent excellence and support different pathways to success. Alternative structured career pathways provide formal opportunities for individuals to chart their own destiny and career success. This will not only allow individuals to thrive, but for the overall institution to excel.

Greater institutional autonomy for public HLIs is required for successful implementation of multi-track career development and pathways to match the unique characteristics and strengths of each HLI. The Ministry has already started to move in this direction by devolving greater levels of autonomy in human resource management functions to public HLIs, such as hiring, remuneration, promotion, and dismissal. However, public HLIs will also need to lift their talent management capabilities with enhancements across their recruitment, development, and retention processes for successful implementation of multi-track career pathways.

Comparison of country performance on publications and citations

Number of academic articles published, 2013

	Total	Publications per million population	Growth, %, 2009-2013, CAGR	Average number of citations per publication ¹
1 United States	563,292	1,746	1.5	5.91
2 China	425,677	305	9.4	2.70
3 United Kingdom	162,574	2,561	2.1	6.01
4 Germany	148,278	1,794	2.0	5.84
5 Japan	121,668	958	0.0	4.04
6 France	108,092	1,672	2.1	5.45
7 India	106,029	84	12.6	2.73
8 Italy	92,906	1,521	4.0	5.63
9 Canada	88,711	2,497	1.9	5.99
10 Spain	79,383	1,687	4.6	5.19
⋮	⋮	⋮	⋮	⋮
23 Malaysia ²	23,190	768	20.0	2.45
⋮	⋮	⋮	⋮	⋮
30 Singapore	17,052	3,091	6.2	6.47
⋮	⋮	⋮	⋮	⋮
42 Thailand	11,313	168	8.1	3.53

¹ Data is for publications published in 2011; data for number of citations is measured in 2014.

² Malaysia rose from 34th place globally in 2009 on total number of publications to 23rd place in 2013.

SOURCE: SCOPUS; IMF – World Economic Outlook Databases (September 2014)

Objectives

The talent in Malaysia's academic community will be relevant, referred, and respected in both the local and international community. Distinctive talent in higher learning leads to distinctive institutions of higher learning. The Ministry will establish a distinctive and conducive New Academia to attract, develop, and retain excellent talent both locally and internationally.



Image by euharki, Flickr CC 2.0

Principles

The strategies and initiatives outlined in this chapter are underpinned by the following five principles:

- **The ability to attract, develop and retain talent** is a key lever for ensuring sustainable talent excellence;
- **Diversity in talent** should be recognised and celebrated as it enriches the overall academic experience and stimulates innovation;
- **A conducive talent environment** is one that emphasises meritocracy, talent mobility, recognition of different strengths, and multiple pathways to success;
- **Excellent talent are relevant, referred and respected** by their local and international peers, their communities, and by industry; and
- **Collective responsibility for talent development** in HLIs and across the higher education system rests with all members of the academic community.



Strategies and initiatives

The Ministry will support HLIs in driving talent excellence with the following strategies, each with its own corresponding initiatives.

Strategy A: Pursuing different forms of institutional excellence

The top talent within HLIs will drive institutions to excel and be recognised in their areas of strength and focus. The Ministry will recognise and encourage all HLIs to aspire towards different forms of institutional excellence. The Ministry will also define specific criteria and introduce incentives to acknowledge and reward institutional excellence, whether in overall research, in niche areas, or in teaching and instruction.

Strategy B: Attracting, developing, and retaining top talent

To enhance and sustain talent excellence, HLIs will need a systematic way to source, recruit, retain, and reward talent. The Ministry will facilitate the sharing of best practices on talent development and processes across HLIs to improve the overall talent pool in the higher education system. The search for talent should not be limited to local academic talent. Malaysian HLIs will

be encouraged to attract top talent from the broader professional, business, and international communities. This will include top international leaders and academics who can accelerate local capacity building and knowledge transfer by serving as University Board Members, Vice or Deputy Vice-Chancellors, Chief Operating Officers, heads of human resources, Chief Financial Officers, and deans or heads of department.

Strategy C: Diversifying career pathways

Public HLIs generally follow a single academic career track for promotion based primarily on research performance. This single track system can no longer satisfy the needs of talent in today's higher education system. Malaysian HLIs need talent who excel in different areas, such as in professional practice, in academic administration, in teaching, and who come from diverse backgrounds such as the government or industry. Malaysian HLIs are encouraged to respond by developing tailored, attractive, and competitive schemes or packages with greater flexibility of employment¹.

¹ UNITEN, MMU and Taylors, for example, are offering a menu of career pathway choices through multi-track employment schemes which have attracted talent from different sources (industry, research agencies, government agencies).



Initiative A1

Positioning HLIs according to different forms of institutional excellence

The Ministry recognises that there are different types of institutional excellence, and welcomes diversity among HLIs in the higher education system. The Ministry encourages all public universities, private universities, and university colleges to position themselves accordingly, and to aspire towards excellence based on their strengths and focus areas:

- **Excellence in overall research:** These are typically MRUs with a high population of post graduate students. They place a high priority on research and development, and engage in extensive research activities across many faculties, departments or multi-disciplinary areas. These institutions often have research partnerships with a broad set of leading universities globally, and are able to effectively secure research funding from industry and other sources.
- **Excellence in niche areas of research:** These institutions are typically research-focused universities that excel in research in specific niche areas or specialisations. They have close links with specific industries with joint investment on specific research topics. These institutions could include technical universities, and universities with established centres of excellence.
- **Excellence in teaching and instruction:** These institutions excel in teaching and learning, with a track record of innovation in designing and delivering under-graduate programmes. They can also conduct fundamental or applied research, such as to help advance instructional quality, develop new and more effective teaching methodologies, but are primarily focused on undergraduate and postgraduate instruction. They strive to provide excellent, high quality education and training for students, and are typically teaching-focused universities, and could include university colleges.

The Ministry acknowledges that there is no “one-size-fits-all” approach to institutional excellence for all HLIs. Assessment, institutional rating and measurement instruments will be updated accordingly to reflect these different types of institutional excellence.

The Ministry will recognise, encourage and incentivise HLIs to aspire towards and achieve different forms of institutional excellence.

Initiative A2

Defining clear criteria and incentives for institutional excellence

In line with the Ministry's recognition of different types of institutional excellence, the Ministry will also clearly define new performance and outcome-based criteria for the different forms of institutional excellence. These different sets of criteria will include clear indicators including Malaysian, regional and international benchmarks such as Malaysia Research Assessment (MyRA), Rating System for Higher Education Institutions in Malaysia (SETARA), Higher Education Academy UK (HEA), Times Higher Education Rankings (THE), QS World University Rankings, or the Academic Ranking of World Universities (ARWU).

Each public university, private university or university college is encouraged to make strategic decisions to enhance their areas of specialisation and focus. The Ministry will introduce incentives to publicly acknowledge and reward HLIs that achieve different forms of institutional excellence, whether in overall research, niche areas of research, or in teaching. For example, the MRU programme will be continued to further improve and incentivise excellence in overall research by HLIs.



Initiative B1

Enhancing talent development strategy and capabilities in HLIs

Drawing on the New Academia Talent Framework described in Exhibit 2-3, the Ministry will facilitate and encourage HLIs to improve on the following four activities:

- **Resource:** Identifying new and/or non-conventional sources for talent where the search criteria and scope meet regional and global standards;
- **Recruit:** Enhancing standard operating procedures (SOP) for hiring and implementing processes that are more friendly in attracting talent ;
- **Reward:** Reviewing remuneration packages to ensure local and regional competitiveness and alignment with international standards; and
- **Retain:** Creating a conducive, supportive, and meritocratic environment that is attractive to top local talent as well as prominent or iconic international talent.

The Ministry also encourages both public and private HLIs to engage prominent international academic leaders to support knowledge transfer and accelerate local capacity building, especially in roles such as board members, vice or deputy vice-chancellors, heads of human resources, chief financial officers, and deans or heads of department.

EXHIBIT 2-3

New Academia Talent Framework



Initiative B2

Establishing the strategic framework for continuing professional development

Continuing professional development (CPD) addresses the need for lifelong and continuous learning. The primary objective of CPD for the academic community is to maintain and enhance existing technical and professional skills in order to better meet changing responsibilities and expectations.

The Ministry will design a strategic framework for CPD through its agencies such as AKEPT and in consultation with HLIs, which will include leadership development and succession planning for HLI leaders. These efforts will cover codification and dissemination of best practices on CPD for both junior and senior academic staff, in order to:

- **Enlarge the leadership talent pipeline and pool** with individuals who embrace values-driven wisdom, strategic thinking, and entrepreneurial mindsets;
- **Build important administrative and leadership skills** such as institutional governance, financial and resource management, infrastructure development, and student engagement; and
- **Strengthen international and local academic and industry networks** for further sharing of ideas, expertise, and best practices.

Initiative B3

Enhancing scope and scale of talent mobility and collaboration programmes

Currently, mobility programmes in Malaysian public HLIs involving academic staff are primarily limited to postdoctoral and sabbatical programmes. The structure and requirements of these programmes often hinder the repeated mobility of talented staff.

The Ministry encourages both public and private HLIs to explore different models of collaboration with government agencies, government linked companies (GLCs), private and social sector institutions in order to facilitate talent mobility and expand the talent pool available for the overall higher education system. A higher education talent strategy roadmap team will be established to develop a framework for expanding the scope and scale of mobility and exchange programmes in the higher education ecosystem. Talent mobility programmes can be in the form of professional attachments, secondments, cross-fertilisation, and expert consultations between HLIs, with industry, individual corporations, and government agencies.

Initiative C1

Strengthening talent management and career pathways

The traditional tenure-track system in universities is typically a “one-size-fits-all” solution focused primarily on research. However, this approach cannot accommodate the varying profiles of outstanding faculty and academic staff. The Ministry will broaden the definition of academic excellence to encompass different dimensions such as teaching, research, practice and institutional leadership. The Ministry encourages HLIs to implement multi-track systems to allow faculty and staff to focus on their strengths, with the freedom to choose their preferred area of academic focus. Different forms of academic excellence can still be measured with equally high standards.





The Ministry recognises that the implementation of multi-track career pathways requires public HLIs to have autonomy over human resource functions, and stronger talent management capabilities. In parallel to granting greater autonomy for public HLIs based on their readiness levels, the Ministry will codify and disseminate best practices on higher education talent management and on the design of career pathways to better support public and private HLIs. For public HLIs that are ready, they can organise career pathways into different categories with clear responsibilities and expectations for each:

- **Inspiring Educators** who focus more on teaching and on applying latest discoveries towards classroom instruction, with demonstrated skills in and passion for teaching, and who are influential in instructional innovation;
- **Accomplished Researchers** who focus mainly on high impact research contributions, and on experimentation, discovery, or exploration activities over and above other academic roles and responsibilities;
- **Experienced Practitioners** who focus on the application of latest knowledge to solve practical problems, and on bringing practical experience or tacit knowledge to students—they are often senior professionals, technical or industry experts; and
- **Transformational Institutional Leaders** who focus on strategic and administrative leadership in HLIs, with expertise in higher education planning and management.

Initiative C2 Strengthening the talent pool for HLI leadership

A national HLI leadership talent pool will be established by AKEPT in collaboration and consultation with HLIs. This effort is consistent with the role of AKEPT as a higher education leadership academy. Candidates for the leadership talent pool will be identified, screened and selected according to the individual's leadership style, professional skills, reputation, integrity, patriotism and leadership track record. An assessment of personal leadership attributes (including the use of a leadership readiness index) will be part of the profiling process for individual candidates. AKEPT will maintain and update this database, which will help HLI selection and nomination committees make sound and better informed decisions when appointing academic and institutional leaders.

Initiative implementation roadmap

The strategies and initiatives within this Shift have been carefully sequenced across three waves to avoid overtaxing the system, and to ensure that each successive wave builds on the foundations laid previously. The planning, execution and monitoring of the implementation process will be conducted according to the proposed roadmap shown in the following Exhibit 2-4.

EXHIBIT 2-4

	Wave 1 (2015)	Wave 2 (2016-2020)	Wave 3 (2021-2025)
Strategy A Pursuing different forms of institutional excellence	<ul style="list-style-type: none"> Formalise recognition of different forms of institutional excellence: <ol style="list-style-type: none"> Excellence in overall research Excellence in niche areas Excellence in teaching Engage and initiate consultation with public and private higher learning institutions (HLIs) on institutional excellence criteria 	<ul style="list-style-type: none"> Define clear criteria to benchmark and assess different forms of institutional excellence; Develop and implement incentives for different forms of institutional excellence; and Encourage HLIs to adapt and develop their institutional strategies to achieve desired form of excellence. 	<ul style="list-style-type: none"> Encourage and support HLIs towards regional and global prominence according to the focus areas and specialisations; and Support HLIs in strengthening performance management approach linked to institutional excellence criteria.
Strategy B Attracting, developing and retaining top talent	<ul style="list-style-type: none"> Codify and share best practices on leadership and talent management for HLIs; and Initiate development of strategic framework for CPD by AKEPT and related agencies. 	<ul style="list-style-type: none"> Facilitate HLI talent mobility programmes and upgrading of talent management capabilities; Develop new Higher Education Talent Strategy Roadmap; and Facilitate recruitment of prominent international academic leaders into HLIs to accelerate knowledge transfer and institution-building. 	<ul style="list-style-type: none"> Expand and formalise talent mobility programmes for HLIs with public, private and social sector institutions; and Implement new initiatives under Higher Education Talent Strategy Roadmap.
Strategy C Diversifying career pathways	<ul style="list-style-type: none"> Codify and share best practices for HLIs to implement multi-track scheme; and Launch new CEO Faculty programme for senior industry and public sector leaders to teach in public HLIs. 	<ul style="list-style-type: none"> Encourage implementation of tailored multi-track pathways; Develop new leadership framework and readiness index for HLIs; Establish national HLI leadership pool and database by AKEPT; and Encourage launch of leadership development programmes targeted for HLI leaders. 	<ul style="list-style-type: none"> Facilitate widespread implementation of multi-track pathways across HLIs, with differentiated performance-based criteria.

Conclusion

The present academic community in HLIs must be transformed to provide more leadership in teaching, research, administration and management of institutions. They need to drive innovative teaching and learning practices, be involved in cutting-edge research and innovation, as well as be relevant, referred and respected by the community and industry. They must be effective in closing the gap between theory and practice, and should become thought leaders and problem solving partners to other stakeholders. Enhancing talent excellence in HLIs is the first step towards achieving all of these outcomes. Excellent talent drives institutional excellence, acts as a magnet for other excellent talent and serve as good role models for students. To drive this Shift, the Ministry is committed to encouraging fluid talent mobility, bringing diversity and best talent from other sectors to HLIs, and enhancing career pathways and talent management.

Tracking measures

The Ministry will track the progress and impact of this Shift against a set of outcome-based measures. These measures are not intended to be exhaustive and may evolve over time. Targets will also be set for each measure on an annual basis.

- Number of public and private HLIs that **achieve criteria for excellence** in overall research, niche areas of research and in teaching excellence;
- Number of public HLIs **implementing diversified multi-track career** pathways for academic staff;
- Number of **top international talent** in senior leadership, university board member and department head roles within public HLIs (for local capacity building);
- **Academic talent productivity** measures including (but not limited to) research output and impact, number of patents; and
- **Number of faculty participants** in CEO Faculty Programme.

Shift

#3



Nation of Lifelong Learners

Lifelong learning has become a global agenda as governments seek to better prepare their citizens and society to meet the challenges of sustainable development. In Malaysia, the Ministry defines lifelong learning (LLL) as a process for the democratisation of education through the acquisition of knowledge, skills, and competencies via formal, informal, or non-formal means based on workplace experiences or training. It involves individuals of 15 years and above, except those who follow conventional education pathways and who are pursuing full-time studies for the purpose of obtaining academic or skills qualifications. LLL can be accomplished through distance learning, e-learning, as well as workplace and part-time learning. This chapter will outline the Ministry's objectives, strategies, and key initiatives to support Malaysia's talent development and the move towards an inclusive knowledge society and innovation-based economy.

Why it matters

Lifelong learning is key to the development of an inclusive knowledge society.

The development of a nation of lifelong learners is an important national imperative. Malaysia's economic development is dependent on a highly skilled workforce. In a globally evolving world, there is a need to continuously upskill and reskill workers. LLL initiatives are one way to ensure all workers have access to such opportunities for improvement.

Government Economic Transformation Programme

LLL is growing in importance and will be critical to Malaysia's transformation towards becoming a developed nation. Malaysia's Economic Transformation Programme (ETP) requires an increased number of well-educated talent, with an expected demand of 3.3 million new jobs by 2020, of which 1.3 million of these are for medium- and high-skilled workers. Beyond the formal education system, this will require citizens to continue to enhance their qualifications and skills to meet this future demand.

Upskilling and reskilling

Changes in the global job market necessitate continuous learning and development. Most people will change jobs about ten times during their careers¹. Furthermore, 65% of primary school students today will be employed in jobs

that do not currently exist². Hence, Malaysia needs to strengthen its labour market by continuously upskilling and reskilling its workforce. LLL optimises the potential of individuals who are currently outside the workforce, including dropouts and unemployed individuals, by providing skills upgrading and reskilling opportunities.

Access to lifelong learning

LLL is the third pillar of Malaysia's human development agenda, alongside the primary and secondary school systems and tertiary education. LLL is also about providing more opportunities to upgrade basic skills and offering learning opportunities at more advanced levels. To that end, LLL also supports citizenry enrichment; it helps produce all-rounded individuals and holistic talent. Malaysia needs to develop an inclusive knowledge society where every individual has an equal opportunity to adapt to the demands of social and economic changes and to participate actively in shaping the country's future.

¹ Meister, J. (n.d.). *Job Hopping Is the 'New Normal' for Millennials: Three Ways to Prevent a Human Resource Nightmare*. Retrieved from <http://www.forbes.com/sites/jeannemeister/2012/08/14/job-hopping-is-the-new-normal-for-millennials-three-ways-to-prevent-a-human-resource-nightmare/>

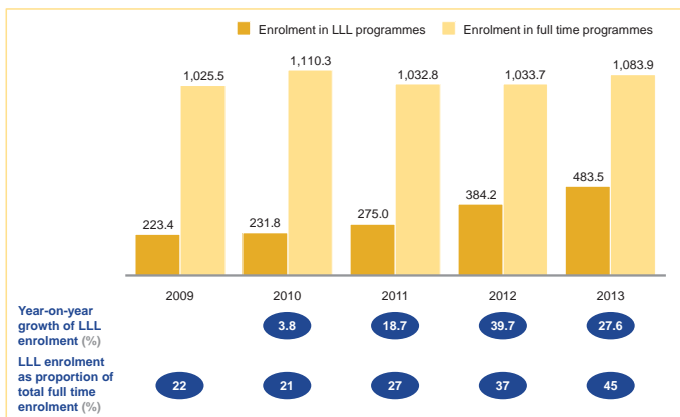
² United States Department of Labor. (1999). *Futurework: Trends and challenges for work in the 21st century*. Retrieved from www.dol.gov/dol/asp/public/futurework

Where we are

EXHIBIT 3-1

Enrolment in LLL programmes offered by public HLIs

2009-2013 in thousands ('000s)

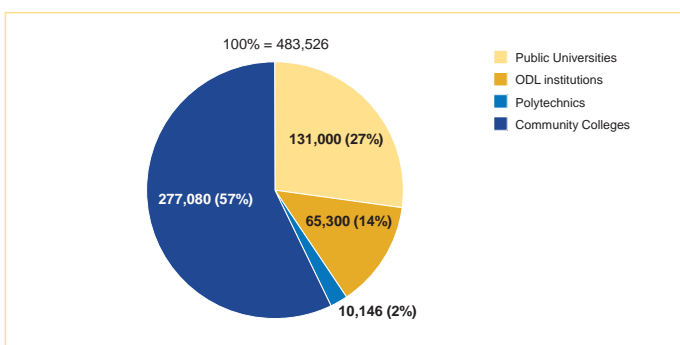


SOURCE: Planning, Research and Policy Coordination Division, Higher Education Sector, Ministry of Education, 2014

EXHIBIT 3-2

Composition of participants of LLL programmes in public HLIs

2013



SOURCE: Planning, Research and Policy Coordination Division, Higher Education Sector, Ministry of Education, 2014

The Ministry has launched major initiatives on LLL, most notably through the Blueprint on Enculturation of Lifelong Learning for Malaysia, 2011-2020 (LLL Enculturation Blueprint). In this Blueprint, Malaysian LLL is classified into three groups—formal, non-formal, and informal (see box 3-1).

Institutions offering LLL

Malaysia has many institutions offering LLL with different focuses. Community colleges, for example, provide full time certificate level technical and vocational education and training (TVET) programmes for the community. Community colleges cater LLL programmes in the form of short courses for all ages some of which can be accumulated as course credits. Community colleges offer work-based learning programmes at the diploma level for working adults. Polytechnics also offer work-based learning, leading to advanced diploma qualifications. Open Distance Learning³ (ODL) institutions, as well as public and private higher learning institutions (HLIs) provide LLL at degree levels.

Demand for LLL

Over the past five years, there has been a steady increase in the enrolment of LLL participants. This has exceeded the 10% annual growth rate target set for the HLIs. In 2013, LLL enrolment was 45% of the regular (full-time) HLIs enrolment (see Exhibit 3-1).

The distribution of lifelong learners by LLL providers is shown in Exhibit 3-2. Community colleges recorded the highest number of LLL participants in 2013. In fact, between 2002 and 2013, community colleges registered 1.3 million participants in the LLL courses, with the number of participants increasing from 1,800 in 2002 to 277,080 in 2013.

³ Open Distance Learning (ODL) refers to the provision of flexible educational opportunities in terms of access and multiple modes of knowledge acquisition.

Public universities are second in LLL participation with 131,000 (27%) enrolment in 2013. Public universities offer LLL through extension, executive, part-time, professional skills certificate, and distance learning programmes to complement their on-campus full-time conventional programmes. Registration in LLL programmes offered by ODL institutions⁴ was 13% (65,000) of total LLL participation in 2013.

LLL initiatives and future challenges

The LLL Enculturation Blueprint outlined three strategies targeted at upgrading mechanisms and infrastructure, enhancing public awareness and participation, ensuring continuity and appreciation, as well as providing financial support. In order to move forward, a number of challenges have to be addressed:

- **Insufficient coordination across stakeholders.** There are several ministries, governmental agencies, non-governmental organisations, HLIs, and private companies currently conducting LLL activities. This may lead to overlapping of activities and duplication of efforts and resources and the quality of these programmes may also vary significantly;
- **Lack of support for groups with specific needs.** In order to provide a wider access for LLL participation by several target groups (for example, the marginalised group, the physically challenged, those with learning difficulties, the indigenous, and senior citizens), improved infrastructures, and mechanisms to manage learners with special needs are required; and
- **Lack of recognition.** Many LLL programmes are currently not recognised by formal education institutions, limiting opportunities for lifelong learners to further education.

Box 3-1

Different forms of Lifelong Learning

Formal LLL includes learning that is conducted in formal learning organizations which can result in academic qualifications or accredited forms of learning. The learning objectives and learning outcomes of these programmes are typically very organised and well-structured. Examples include certificates and diplomas at community colleges and polytechnics, executive diplomas, undergraduate and postgraduate degrees offered by public and private universities.

Non-formal LLL on the other hand, embraces learning conducted in alternative localities other than in a formal institutional setting. These programmes can often be systematic and well-designed. However, participation in non-

formal LLL may not necessarily lead to the conferment of specific academic qualifications. Non-formal LLL generally serves in-service workers and is intended for professional skills development and enhancement.

Informal LLL is the least structured of all the three types of LLL. It is carried out with the objective of improving the quality of life of learners. The completion of informal LLL does not result in academic qualifications. It typically occurs as a result of an individual's interest or initiative in personal development and self-improvement. Informal LLL may comprise community-based programmes that are directed towards addressing immediate skills gaps, community needs or social concerns.

⁴ Currently there are four institutions which operate ODL modules with the approval of the Ministry of Education; Open University Malaysia (OUM), Wawasan Open University (WOU), Asia e-University (AeU) and the International Centre for Education in Islamic Finance (INCEIF).

Objectives

The Ministry aims to enculturate lifelong learning into Malaysian society to make learning and relearning an integral part of Malaysian culture and a way of life. This will be achieved and catalysed through a high quality, well-coordinated, harmonised and respected lifelong learning system with learning communities in every organisation.



Principles

The strategies and initiatives in this shift are underpinned by the following principles:

- **LLL is based on formal, non-formal, and informal learning approaches.** While the Ministry focuses on the provision of formal LLL programmes, the Ministry recognises the need to work collaboratively with providers of non-formal and informal programmes;
- **LLL is about empowering the learner** to seek ongoing opportunities for self-development and growth. It will thus be important to increase his/her motivation levels by emphasising learner-centred approaches and increasing self-directed learning opportunities; and
- **LLL focuses on an integrated and coordinated ecosystem** to ensure learning opportunities meet the learners, community and industry expectations.

The Ministry will focus on promoting awareness, enculturating lifelong learning as a way of life and improving the quality of programmes.



Strategies and initiatives

The Ministry will continue to build on the strategies and initiatives first set forth in the LLL Enculturation Blueprint.

Strategy A: Rebranding LLL

The Ministry and HLIs will increase public awareness of the benefits of engaging in LLL, and the range of programmes offered to learners, through a variety of promotion campaigns. HLIs will also improve the infrastructure for promotional activities and increase networking with relevant bodies and agencies.

Strategy B: Enculturating LLL as a way of life

HLIs will develop and enhance innovative LLL programmes such as work-based learning and executive education so that more

opportunities will be available to a wider population. The Ministry will also continue to ensure that funding is accessible and attractive to all.

Strategy C: Raising the quality of LLL programmes

HLIs will ensure that their programmes and courses are relevant to the learner's objectives and needs. This includes ensuring that LLL programmes are accredited and comply with the Malaysian Qualification Framework (MQF). Such compliance will enable LLL to serve as an alternative pathway towards formal education and qualification.



Initiative A1 Increasing promotion activities

The Ministry and HLIs will increase LLL awareness and readiness through promotion campaigns in various media, such as organising lifelong learning roadshows involving various LLL agencies and institutions, creating a central LLL website to provide information on LLL activities and programmes, publishing LLL “success stories” in newspapers and websites, and using social media to propagate news on LLL opportunities.

The Ministry will promote initiatives to model learning as a continuous process as this is a crucial agenda towards fostering a lifelong passion for learning among Malaysians. HLIs will increase student enrolment in LLL programmes through flexible programme offerings to suit learners’ needs and time. A wider acceptance of Accreditation of Prior Experiential Learning (APEL)⁵ by HLIs will also increase LLL enrolment. For example, students with a diploma qualification, several years of work experience, and completion of various short courses may be admitted directly to Master’s programmes in the same discipline via APEL.

Initiative A2 Enhancing infrastructure for promoting LLL

The Ministry will encourage HLIs to set up facilities (for example, a LLL smartphone application) for easy public access to information and materials on LLL. It will also leverage existing resources and facilities, such as community colleges, in promoting community LLL activities. HLIs will increase collaboration with various government and non-governmental agencies, state-run training institutions or foundations to enhance the infrastructure to promote LLL programmes. The Ministry will encourage LLL providers to form a national organisation as a platform for networking and sharing of best practices.

⁵ APEL is defined as a systematic process involving the identification, documentation and evaluation of learning based on previous experience (2015). Retrieved from <http://www.mqa.gov.my/apel/en/index.html>

⁶ The MyCC Loyalty Programme is managed by the community colleges and it records members’ participation in LLL programmes through membership cards. This card enables the participants to enjoy privileges offered by the community college as recognition of their commitment and loyal involvement.

⁷ The 1Family Multiple Skills Programme is managed by the community colleges and it offers a variety of courses, which are conducted simultaneously on the same day for family members in order to promote meaningful interaction and strengthen family values.

Initiative B1 Developing and enhancing innovative programmes

The programme offerings for LLL are more challenging because the individual needs and constraints are very diverse. The levels of preparation and qualifications are also very wide and varied. HLIs will develop and enhance innovative programmes such as the MyCC Loyalty Programme⁶ and the 1Family Multiple Skills Programme⁷. These two programmes are intended to directly address learners’ needs so they can gain immediate benefits. Modular-based, work-based learning and executive education programmes are also good examples of innovative programmes, and can be further strengthened to increase opportunities for LLL.

Initiative B2 Expanding outcome-based allocation

HLIs will seek to establish multiple models for funding LLL programmes with various government and non-governmental agencies, state-run training institutions or foundations to establish more sustainable LLL programme offerings. The Ministry will continue providing financial assistance to disadvantaged groups to participate in LLL programmes. The Ministry will continue tax reduction incentives schemes for companies participating in HLIs that offer LLL programmes (for example, through exemption, tax rebates, and import duty) and it will also collaborate with financial institutions to create funding mechanisms and financial assistance programmes for all groups.



Initiative C1

Aligning LLL with accreditation requirements

The motivation to participate in LLL will be greatly enhanced if the learner's new knowledge and skills are duly recognised. HLIs will ensure continuous quality improvement of LLL programmes by upgrading and updating the LLL curriculum or module that will lead to programme accreditation and recognition. The proper recognition or accreditation will increase opportunities for the learner in terms of their career progression.

HLIs will be encouraged to undertake programmes that are already aligned with skill qualification frameworks such the Recognised Prior Experience (RPE) initiatives by MMAM⁸. The RPE allows candidates to demonstrate their knowledge and skills through a series of assessments that require them to display their competence. It is implemented in order to enable workers to obtain recognition of their skills and competencies according to the level determined by the Department of Skills Development (DSD), Ministry of Human Resources.

Initiative C2

Creating a framework for recognising prior learning

Prior experiential learning, formal and informal qualifications, hands-on experience at the workplace, and voluntary involvement in services, will be given credit in determining eligibility for admission into certain programmes of study. To this end, the Ministry and HLIs will take the following actions:

- **Stipulate criteria for recognising prior experience** and courses for credit transfer in certain academic programmes, including the training programmes conducted by other ministries or agencies as equivalent entry qualifications into academic programmes offered by HLIs;
- **Establish clear pathways** for those who had previously exited the education system early to re-enter. These clear pathways will include a point at which re-entry can be made, qualifications that maybe considered, and how to achieve such qualification; and
- **Establish a national credit system** to enable transfer of credits so that personalized learning becomes possible across one's lifetime. The system recognises diverse learning experiences gained formally and informally, including courses done through modular system. Learners may be awarded academic certificates after they accumulate a sufficient number of approved credits.

⁸ MIGHT-METEOR Advanced Manufacturing Sdn. Bhd. (MMAM) is a recognised human capital development centre established within the organisation of MIGHT and under the purview of the Office of Science Advisor, Prime Minister's Department and METEOR is a consortium of 11 public universities in Malaysia. It has started an initiative called RIM, which is a programme that combines three approaches in training and education that is Recognized Prior Experience (RPE), Integrated Modular Based Education and Massive Online Learning. It coordinates the industry skill needs with the training providers.

Box 3-2

The Blueprint on Enculturation of Lifelong Learning

The Blueprint on Enculturation of Lifelong Learning for Malaysia (2011-2020) and projects under the 10th Malaysia Plan (2011-2015) on LLL outlined a number of initiatives which will be continued or enhanced under the Malaysia Education Blueprint 2015-2025 (Higher Education) or MEB (HE). The initiatives include:

- Evaluating the establishment of a national lifelong learning committee or an equivalent body to oversee and coordinate LLL initiatives amongst various ministries and agencies;
- Setting up a national LLL funding mechanism including tax incentives, loan scheme and savings fund;
- Establishing a lifelong learning quality assurance and recognition centre;
- Setting up a Malaysian online lifelong learning framework;
- Developing lifelong learning portals:
 - ePSH;
 - CCSmart; and
 - Open Courseware Resource (OCR).
- Conducting LLL programmes:
 - Flexi Lifelong Learning for All;
 - Lifelong Learning for Everyone;
 - Lifelong Learning is Everywhere;
 - Malaysia Lifelong Learning Carnival (My3L);
 - Program Latihan 1Malaysia (PL1M);
 - Strategic Action for Youth 1Malaysia (SAY 1M); and
 - Time Sector Privatisation (TSP).

Initiative implementation roadmap

The strategies and initiatives within this Shift have been carefully sequenced across three waves to avoid overtaxing the system, and to ensure that each successive wave builds on the foundations laid previously. The planning, execution and monitoring of the implementation process will be conducted according to the proposed roadmap shown in the following Exhibit 3-3.

EXHIBIT 3-3

	Wave 1 (2015)	Wave 2 (2016-2020)	Wave 3 (2021-2025)
A Strategy A Rebranding LLL	<ul style="list-style-type: none"> Introduce career guidance planning for LLL opportunities; Create and sustain awareness of LLL programmes through intensive campaigns and roadshows; and Enhance infrastructure for marketing and promotions. 	<ul style="list-style-type: none"> Intensify collaboration with other ministries and agencies to promote LLL; and Initiate formation of a national network of LLL providers to enable sharing of best practices. 	<ul style="list-style-type: none"> Support the growth of learning communities; and Continue to promote awareness of LLL programmes and their benefits.
B Strategy B Enculturating LLL	<ul style="list-style-type: none"> Develop innovative programmes and diversity programme offerings to attract wider audience; Implement APEL for short courses and formal TVET courses; and Initiate outcomes-based allocation model for LLL programmes. 	<ul style="list-style-type: none"> Introduce more innovative programmes which are industry and community relevant; and Diversify funding sources by partnering with other ministries and agencies, and incentivising contributions from private and Government-linked companies. 	<ul style="list-style-type: none"> Continue to ensure alignment between LLL programme offerings and the knowledge, skills and attitudes needed for Malaysians to thrive in the 21st century.
C Strategy C Raising quality	<ul style="list-style-type: none"> Provide LLL programmes that are in high demand by both the community and industry; and Formulate credit standards for LLL programmes to enable articulation. 	<ul style="list-style-type: none"> Draft policy framework for LLL programmes in HLLs under the Ministry's purview; Establish clear pathways to enable greater mobility of students, particularly in the field of TVET; and Expand modes of LLL delivery, such as online-learning. 	<ul style="list-style-type: none"> Adopt central credit bank system for LLL programmes; and Gain public and private agency recognition of LLL programmes for employment purposes.

Conclusion

The Ministry is committed to supporting any and all pursuits which encourage and empower Malaysians to acquire - and upgrade - the knowledge, values, skills, and understanding they will require throughout their lives. This provision of lifelong learning is essential for the development of the country as it will lead to greater efficiency, productivity, and quality of life. Lifelong learning is also essential to the development of an inclusive knowledge society. To that end, the Ministry will work with HLIs to increase public awareness of LLL programmes and to create a framework to recognise prior learning. HLIs are also encouraged to develop more innovative programmes that meet the needs of a wider audience.

Tracking measures

The Ministry will track the progress and impact of this Shift against a set of outcome-based measures. These measures are not intended to be exhaustive and may evolve over time. Targets will also be set for each measure on an annual basis.

- Growth in **LLL enrolment rate** in public and private HLIs;
- Growth in number of **LLL candidates that obtain formal qualifications**; and
- Growth in **LLL enrolment in innovative programmes** (for example, executive education, work-based learning, modular-based learning).

Shift

#

4



Quality TVET Graduates

Technical and vocational education and training (TVET) is an important pathway for vocational education and skills development. It is also a major platform for lifelong learning. The United Nations Organisation for Education, Science and Culture (UNESCO) defines TVET as “those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences as well as the acquisition of practical skills, attitudes, understanding, and knowledge relating to occupations in various sectors of economic and social life”¹.

In Malaysia, TVET programmes focus more than 50% of content on technical and vocational skills. They encompass certificate, diploma, and degree level qualifications. There are seven ministries² and agencies involved of which the Ministry of Education is the largest TVET provider. This chapter will outline the Ministry’s objectives, strategies, and key initiatives to produce quality TVET graduates whose qualifications are recognised and whose competencies meet industry expectations.

¹ Other terms that are used to refer to this sector include Vocational Education and Training (VET), and Career and Technical Education (CTE). See more at <http://www.unevoc.unesco.org/>. EPU uses TEVT in its 10th Malaysia Plan document and will continue to use that term for the 11th Malaysia Plan

² The seven ministries are Ministry of Education, Ministry of Human Resources, Ministry of Youth and Sports, Ministry of Rural Development, Ministry of Agriculture, Ministry of Defence and Ministry of Works.

Why it matters

Worldwide, young people today are three times more likely than their parents to be out of work. At the same time, there is a critical skills shortage globally. In order to address these issues, employers will need to work closely with TVET providers so that students learn the skills they need to succeed at work, and governments will also need to play crucial roles as training providers, facilitators, regulators and policy makers for the TVET sector. Workforce productivity will be key to building Malaysia's economic resilience and delivering on economic transformation. This will require addressing the mismatch between industry requirements and the skills of Malaysian graduates.

Support the Government's Economic Transformation Programme

There is an expected demand for an additional 1.3 million TVET workers by 2020 in 12 National Key Economic Areas (NKEA) identified under the Government's Economic Transformation Programme (ETP)³. To that end, the Government is investing heavily in developing the TVET sector. For example, in the 10th Malaysia Plan, the Government increased the Development Expenditure (DE) allocation given to public TVET institutions from RM1.8 billion in 2010 to RM2.1 billion in 2014⁴.

Undersupply of high and medium skill workforce

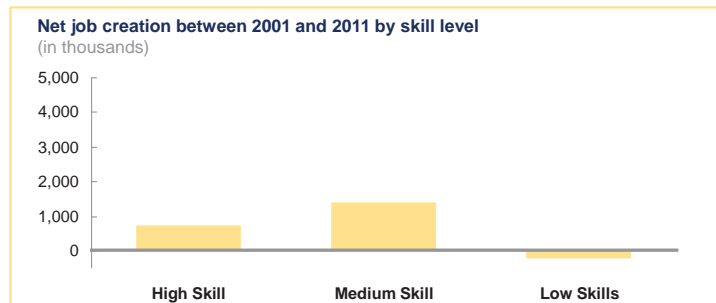
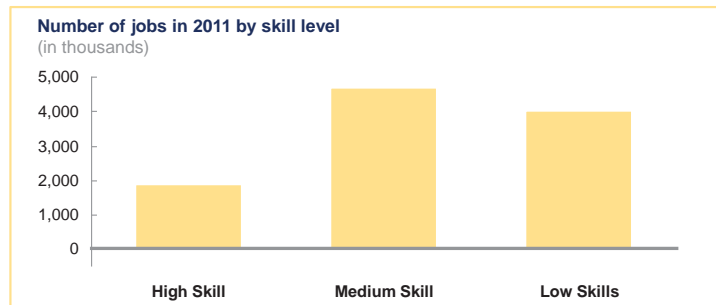
A total of two million high and medium skill jobs were created between 2001 and 2011⁵. Over this period, Malaysia focused on increasing high- and medium-skilled jobs over low-skilled jobs (see Exhibit 4-1). However, many companies have difficulty finding highly skilled experienced workers. The Ministry needs to keep abreast of projected demand so it can offer programmes in areas where there is an undersupply of skilled labour.

TVET at a global level

TVET is recognised as one of the four priorities of the UNESCO's Education for All (EFA) strategy due to the role it plays in improving education and social economic conditions⁶. It is also a priority under UNESCO's Education for Sustainable Development (ESD)⁷ strategy.

EXHIBIT 4-1

Breakdown of jobs by skill-level



"Malaysia needs more skilled workers than it is producing"

A report by the World Bank Group as presented to the Ministry of Education, October 2014

³ The 12 NKEA includes 11 industry sectors that are Oil, Gas and Energy, Palm Oil and Rubber, Financial Services, Tourism, Business Services, Electrical and Electronics, Wholesale and Retail, Education, Healthcare, Communications Content and Infrastructure, and Agriculture plus Greater KL/Klang Valley. *Economic Transformation Program, A Roadmap for Malaysia*.

⁴ Economic Planning Unit (2014). *High Level of Structure of Governance Model*.

⁵ World Bank Group (2014). Data presented to Ministry of Education.

⁶ World Education Forum (2000). *The Dakar Framework for Action*.

⁷ UNESCO is the lead agency for the UN Decade of Education for Sustainable Development (DESD, 2005-2014). ESD is about constructively and creatively addressing present and future global challenges to create more sustainable and resilient societies.

Where we are

The TVET landscape in Malaysia is diverse with multiple private and public sector TVET providers across different ministries and agencies. The Ministry aims to ensure that it develops quality TVET graduates whose qualifications meet national and international frameworks and satisfy industry expectations. This will require addressing several challenges in the TVET sector.

Intake for TVET students

In 2013, 321,000 students from a total cohort of 429,000 post-SPM (Sijil Pelajaran Malaysia) students enrolled in higher education and training. More than 50% of them entered TVET institutions. Currently, TVET programmes primarily do not necessarily attract students with stronger academic qualifications. This could be due to a perception that TVET qualifications offer less attractive career and academic progression. This bias against TVET is not unique to Malaysia – a global study⁸ found that TVET qualifications are seen to be of lesser value compared with conventional academic programmes. Hence, there is a need to improve the image of TVET so that it is able to attract students from all levels of academic achievement.

Multiple TVET providers

There are over 1,000 TVET institutions in Malaysia of which 506 are public

EXHIBIT 4-2

Differentiating roles of the four types of Ministry of Education TVET institutions

	Vocational colleges	Community colleges	Polytechnics	Malaysia Technical University Network
Target age group	<ul style="list-style-type: none"> 16 years (after Form 3) 	<ul style="list-style-type: none"> 18 years (after Form 5) Working adults 	<ul style="list-style-type: none"> 18 years (after Form 5) 	<ul style="list-style-type: none"> 18-20 years (after Form 5)
Entry requirements for type of qualification	<ul style="list-style-type: none"> PT3: Grades D and E, pass BM for SKM2 A,B,C,D for SVM, Diploma (DVM) 	<ul style="list-style-type: none"> SPM with 1 credit for certificate Certificate for WBL Diploma 	<ul style="list-style-type: none"> SPM with 3-6 credits for Diploma Diploma for WBL Adv Diploma, WBL Bachelor 	<ul style="list-style-type: none"> SPM with 5 credits for Diploma Diploma for Adv Diploma, Bachelor

Note:
SVM = Sijil Vokasional Malaysia, **DVM** = Diploma Vokasional Malaysia, **WBL** = Work Based Learning
PT3 = Peperiksaan Tahap 3, **SPM** = Sijil Pelajaran Malaysia
 SOURCE: PEMANDU-PADU lab, 2014

⁸ Mourshed, M. et al. (2012). *Education to Employment: Designing a System That Works*. McKinsey Center for Government. Retrieved from http://mckinseysociety.com/downloads/reports/Education/Education-to-Employment_FINAL.pdf

institutions. The current capacity for TVET students in public institutions is about 230,000 and more than 50% are provided by the Ministry's own polytechnics, community colleges and vocational colleges. This percentage does not include the Malaysian Technical Universities (MTUN) and other higher learning institutions (HLIs) that provide diploma and degree level TVET programmes.

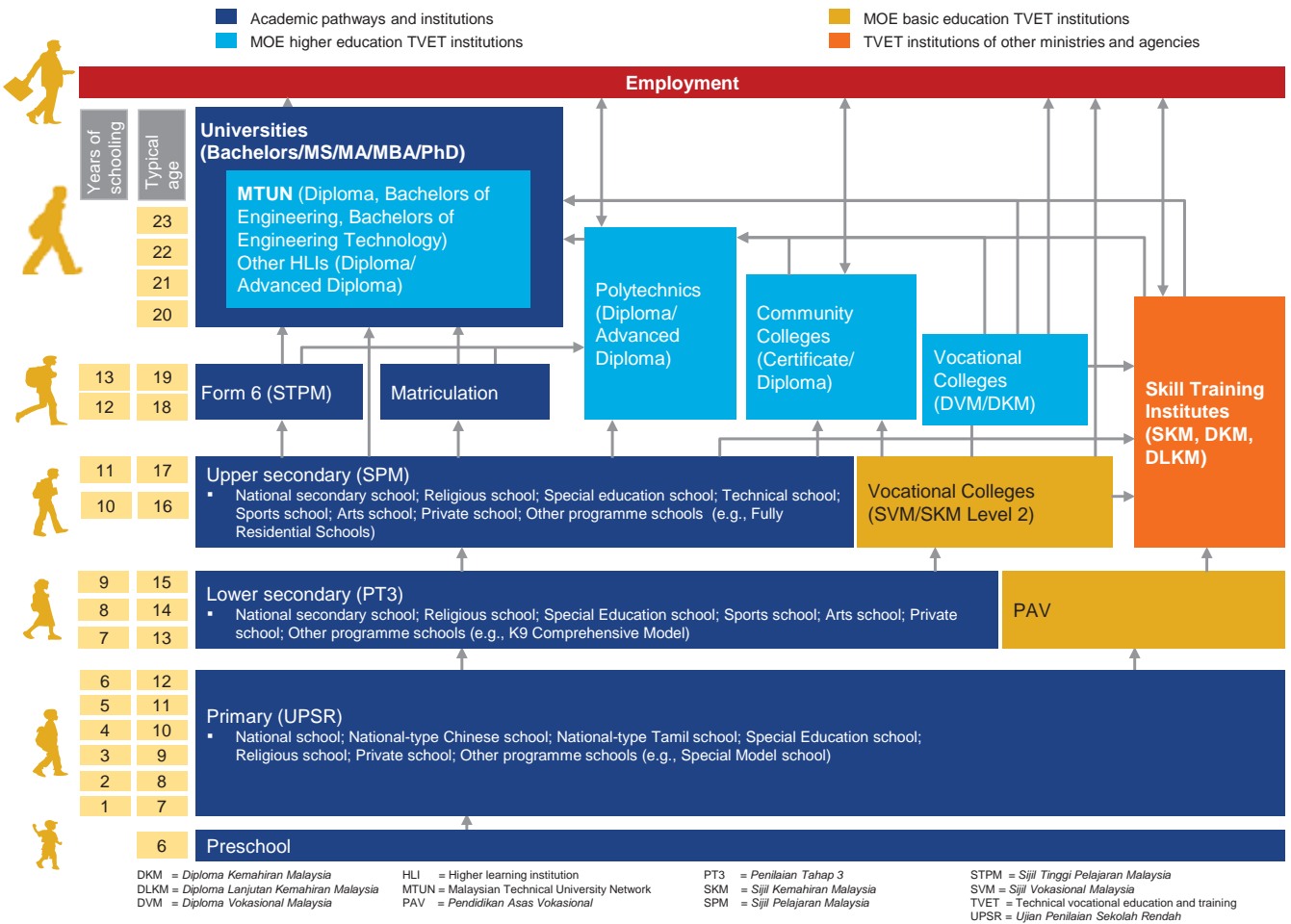
The qualifications for academic and vocational education sectors (programmes offered by universities, polytechnics, and community colleges) are currently accredited by the Malaysian Qualifications Agency (MQA), whereas the vocational training sector (programmes offered by skills training institutions) is currently accredited by the Department for Skill Development (DSD) in the Ministry of Human Resources.

Within the Ministry, each TVET provider has a different target audience, and focuses on different levels of qualifications. For example, community colleges primarily offer qualifications at certificate level, while polytechnics primarily offer diplomas and advanced diplomas (see Exhibit 4-2).

Currently, there are three pathways within the Malaysian education and training landscape (see Exhibit 4-3): (i) Academic; (ii) Vocational education; and (iii) Vocational training.

EXHIBIT 4-3

Malaysia education pathways



SOURCE: PEMANDU-PADU TVET Lab, July 2014

Objectives

The Ministry aims to be a premier higher education TVET provider that develops skilled talent to meet the growing and changing demands of industry, and promotes individual opportunities for career development. The Ministry also aims to expand enrolment over the course of the next decade. The exact nature of the expansion in terms of both quantity of seats and profile of jobs will be determined in close collaboration with industry to ensure supply matches demand.

Curriculum quality and relevance

The lack of integrated data on industry workforce requirements has made it difficult to effectively match supply to demand. Different providers also offer similar programmes (for example, diploma programmes) leading to unintended competition and duplication. Each accrediting agency (such as MQA and DSD) has different requirement for accreditation, which makes it challenging to develop TVET programmes that meet the standards of both agencies. There are also significant opportunities to improve the practicum and content elements of the curriculum to be much more demand-driven and industry-focused.

Teaching staff experience and qualifications

Currently, 43% of staff at vocational colleges have a Malaysian Competency Certificate (MCC) or *Sijil Kemahiran Malaysia* of Level 2 or below, and only 0.4% have a MCC of Level 4 or above. There is a need to have more teaching staff with industry experience, or to bring those from industry into MTUN, polytechnics, community colleges and vocational colleges as teaching staff.

Resources for Ministry's TVET institutions

There is a need to develop more sustainable funding models to support the expansion of the TVET sector, for example, through private sector contributions in funding, machinery, equipment, and expertise. There is a need to improve coordination and governance

between the Ministry TVET providers to enhance cost and operational efficiency, for example, through the sharing of faculty and facilities.

Industry linkages and collaboration

Currently there are multiple contact points for industries as each institution has set up its own linkages. This needs to be improved as it causes confusion with industries and limits their participation. TVET providers need to leverage on industry readiness to take the lead in curriculum design and participate in programme delivery.



Principles

The strategies and initiatives in this Shift are guided by four principles:

- **Make TVET programmes industry-driven** to improve employability prospects and meet the demands of industry;
- **Develop more sustainable funding models** through increased stakeholder partnerships to support the planned expansion in seats;
- **Reduce complexity of TVET pathways** to make it easier for students and industry/employers to make choices; and
- **Improve attractiveness of TVET careers** to attract a more diverse student body.



Strategies and initiatives

The Ministry's four strategies and corresponding initiatives are in line with the global strategy for TVET as recommended by UNESCO.

Strategy A: Enhancing industry-led curriculum

The Ministry's TVET providers will engage industries to facilitate the process of upgrading current programmes and making them more relevant. This includes developing more well qualified trainers with appropriate industrial experience and certification.

Strategy B: Creating integrated and coordinated governance structure

The Ministry will improve the governance of the TVET institutions within its purview by setting up a central coordinating taskforce to improve effectiveness and efficiency. The Ministry will also empower polytechnics with greater autonomy to innovate as needed.

Strategy C: Streamlining qualifications

The Ministry's TVET providers will align all programmes with the latest national qualification framework to ensure programme accreditation and recognition. To enhance the quality of TVET programmes, the providers will also seek international recognition from relevant bodies and institutions.

Strategy D: Rebranding of TVET

The Ministry's TVET providers will increase its offering of high technology and high value programmes that are associated with high salaries, and work with various stakeholders to brand TVET as an attractive career path.



Industry-led TVET curriculum is key to ensuring that the quality and quantity of graduates meet industry requirements.

Initiative A1

Developing industry-led curriculum

An industry-led curriculum design is expected to improve graduate employability and reduce the skills mismatch. Various measures need to be in place to intensify partnerships as well as facilitate closer and frequent collaboration:

- The Ministry will create a single contact point per industry to coordinate collaborations and reduce duplication of efforts and programme offerings amongst the Ministry's TVET providers;
- The Ministry's TVET providers will seek to collaborate with industry bodies⁹ such as CIDB, MMAM, MAI and MAH to align the TVET curriculum with the specific workforce requirements of each industry;
- The Ministry's TVET providers will incorporate foundational skills, transferable skills and industry-specific competencies in all industry-led TVET curriculum;
- The Ministry will shorten the process of approval for industry-led curriculum to within 3-months; and
- The Ministry's TVET providers will increase the number of partnerships under the Public Private Partnership (PPP)¹⁰ programmes, particularly with government-linked companies (GLCs) and implementing authorities of economic corridors.



Initiative A2

Increasing quality of teaching staff and programme delivery

To ensure quality, programmes will be delivered by teaching staff who have the right skills, competencies, and pedagogies, and are able to “deliver the skills the right way”, namely:

- The Ministry will develop guidelines with regard to the minimum percentage of teaching staff who have competency certification and the minimum percentage of hands-on training and practical time in the curriculum;
- The Ministry's TVET providers will increase the number of skilled teaching staff and create programmes that continuously up skill and reskill the existing teaching force. For example, this could include introducing a compulsory industry attachment programme for staff, working closely with industries to provide training venues for teaching staff, and recruiting staff from industry to teach;
- The Ministry's TVET providers will increase coordination with industry to provide internship and apprenticeship opportunities to students; and
- Given the limited opportunities for on-the-job training, the Ministry's TVET providers will also work with industries to set up industrial scale facilities on campus for teaching purposes.

Initiative B1

Empowering Ministry TVET governance

The Ministry has set up an internal taskforce to oversee the performance of its providers. Through this taskforce, the Ministry's TVET providers will align their programme offerings with the national TVET demand and supply landscape. The taskforce will also facilitate greater collaboration in resource sharing, encourage income generation, and optimise the return on investment by maximising enrolment and keeping the cost per student in line with the Ministry's target.

⁹ Collaboration with the industry bodies should include the Construction Industry Board (CIDB), MIGHT-METEOR Advance Manufacturing (MMAM), Malaysian Automotive (MAI), Malaysian Association of Hotels (MAH)

¹⁰ Public Private Partnerships (PPP) is an initiative undertaken by community colleges (as a public entity) with private entities such as private universities or colleges and private entities. A successful example of the PPP is a programme by community colleges with Taylors University and Langkawi Tourism Academy.

Initiative B2

Establishing *Politeknik Malaysia* as a statutory body

The Ministry will give more autonomy to polytechnics in an effort to empower polytechnics to innovate as needed, and to reduce the day-to-day supervisory burden of the Ministry. Accordingly, efforts are underway for *Politeknik Malaysia* to be institutionalised as a multi-campus statutory body. This in turn will give the Ministry more bandwidth to focus on sector-wide and strategic policy and regulatory work.

Initiative C1

Harmonising national TVET qualifications

The Ministry will continue to work with other ministries and agencies to harmonise the TVET qualification framework and standards into a single national system for TVET programme accreditation and recognition. The Ministry's TVET providers will update and align their programmes with the latest national qualification framework to enable the accreditation and recognition of their programmes.

Initiative C2

Obtaining international recognition and accreditation

There are many international bodies that give accreditation to TVET programmes. Recognition or accreditation by these bodies will improve the branding of local TVET providers, ease articulation of qualifications and global recognition for employment purposes, and enable student mobility. The Ministry's TVET providers will therefore seek international recognition or accreditation from relevant bodies and institutions such as:

- Asia Pacific Accreditation and Certification Commission (APACC);
- Business and Technology Education Council (BTEC);
- City and Guilds;
- Sydney Accord and Dublin Accord Signatories; and
- Other international professional certification entities.

Initiative D1

Developing high technology and high value programmes

The Ministry's TVET providers will identify programmes that require high technology and skills, and that are high in demand, but low in supply. These "high technology and high value" programmes are normally associated with high salaries, which in turn make them more attractive to students. Having a larger portfolio of such programmes would enhance the Ministry's current TVET brand.

Initiative D2

Rebranding TVET

The Ministry will rebrand its TVET offerings by developing a database and showcasing success stories in order to make TVET an attractive choice for students and parents. In addition, promotional efforts will include proper career guidance, clear explanation on TVET pathways and career opportunities.



Box 4-1

What do effective TVET programmes look like?

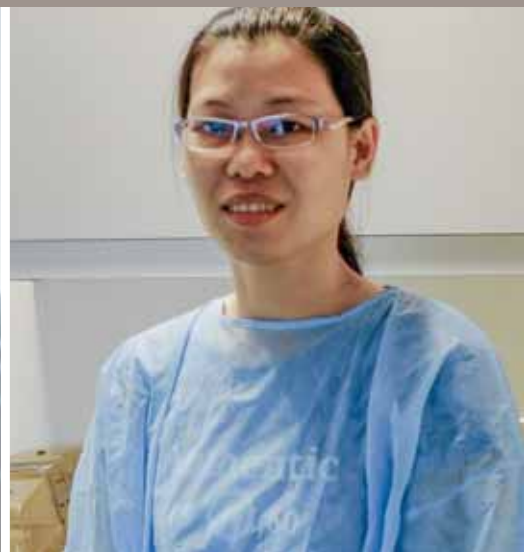
Regardless of industry, geography or development level, all effective TVET programmes share one key attribute that is crucial to their success at improving student outcomes: education providers and employers collaborate intensively with one another, taking on roles that may traditionally have been seen as the responsibility of their counterpart. In the most innovative programmes, this collaboration is not limited to curriculum design and delivery, but spans the entire education to employment continuum, from student recruitment through to graduation and job placement.

To illustrate, Apprenticeship 2000¹ is a consortium of eight companies and one community college in North Carolina, USA that work in close collaboration to produce mechatronic² technicians. These eight companies, which are not competitors, agree to a common curriculum, recruit as a group, and do not poach employees. Apprentices spend about half their time in the community

college and half in the companies' manufacturing plants, working under the supervision of a designated mentor. The course takes about 8,000 hours to complete. The companies also pay students an allowance while studying and guarantee them a job as long as they graduate in good standing. Due to the sophistication of the skills required, the companies believe the investment is worth it. The Apprenticeship 2000 model also demonstrates the power of sector-wide or regional collaborations as it reduces duplication of resources and enables training programmes to be created at scale. Such industry partnerships can be particularly beneficial to SMEs that generally lack the resources and capabilities to fund their own training programmes. The Ministry aims to encourage and enable similar industry-led models of innovation, and seeks to create new partnership models across the value chain, from recruitment through to placement.

¹ Mourshed, M., Farrell, D., Barton, D. (2012). *Education to Employment: Designing a System that Works*. Retrieved from: http://mckinseysociety.com/downloads/reports/Education/Education-to-Employment_FINAL.pdf

² Mechatronics is a multidisciplinary field that combines the understanding of mechanical, electronic, computer and systems, and software engineering.



Box 4-2

How can systems scale up effective programmes?

There are many instances of effective TVET programmes around the world. However, many successful programmes still struggle to scale-up to serve larger numbers of students. There are common reasons why programmes fail to achieve larger scale, for example due to high cost requirements, difficulties in getting employers to invest, lack of information for students and critically, the lack of sufficient hands-on practical training opportunities¹.

One of the main barriers to scaling is the fact that most countries have a highly fragmented TVET landscape, with multiple government agencies and private entities involved. No single entity has the overall end-to-end view that is essential for effective strategic planning. One way to improve this situation would be the creation of a “system integrator” that would be responsible for working with education providers and employers to gather and share information on the most salient metrics such as job forecasts by profession, youth job placement rates and employer satisfaction rates. The system integrator would also identify

and share examples of successful programmes, and work with employers and educators to scale them up. Such integrators could focus on specific sectors, regions or target population.

Another major barrier to scale is the difficulty and cost of providing sufficient hands-on opportunities for students. Traditionally, apprenticeships and simulated workplaces have fulfilled this function, but there are typically insufficient spaces to meet demand. Here, technological solutions such as serious games could help by using the technology of computer and video-games to simulate complex, real-world environments. These games create opportunities for interactivity, for example through multi-user gameplay and for personalisation, as the game responds to actions by the user, and even learns from them, making subsequent rounds tougher. Critically, these games can reach large numbers of students at a comparatively low cost.

¹ Mourshed, M., Farrell, D., Barton, D. (2012). *Education to Employment: Designing a System that Works*. Retrieved from: http://mckinseysociety.com/downloads/reports/Education/Education-to-Employment_FINAL.pdf



All effective TVET programmes share one key attribute that is crucial to their success at improving student outcomes: education providers and employers collaborate intensively with one another, taking on roles that may traditionally have been seen as the responsibility of their counterpart.

Initiative implementation roadmap

The strategies and initiatives within this Shift have been carefully sequenced across three waves to avoid overtaxing the system, and to ensure that each successive wave builds on the foundations laid previously. The planning, execution and monitoring of the implementation process will be conducted according to the proposed roadmap shown in the following Exhibit 4-4.

EXHIBIT 4-4

	Wave 1 (2015)	Wave 2 (2016-2020)	Wave 3 (2021-2025)
A Strategy A Enhancing industry-led curriculum	<ul style="list-style-type: none"> Establish partnerships with industries through GLCs and economic corridors implementing authorities; Develop industry-led curriculum and TVET programme bank; and Embed elements of industry certification in TVET curriculum. 	<ul style="list-style-type: none"> Increase student internships and apprenticeships; Set up industry training facilities Introduce monetary incentives for industry-academia engagements; Intensify recruitment of experienced practitioners for adjunct staff; and Enhance community-industry-academia and international linkages. 	<ul style="list-style-type: none"> Increase number of partnerships under the PPP programme; Increase number of TVET programmes pre-approved by industries; and Increase programmes offered through Work-Based Learning (WBL) in community colleges, polytechnics and MTUN.
B Strategy B Creating integrated and coordinated governance structure	<ul style="list-style-type: none"> Enhance roles of Ministry's TVET taskforce; and Develop comprehensive plan for establishing the statutory status of <i>Politeknik Malaysia</i> and for strengthening curriculum, industry partnerships, IT connectivity and infrastructure. 	<ul style="list-style-type: none"> Institutionalise outcome-driven approach to optimise TVET provision; Apply statutory status for at least three polytechnics; and Increase percentage of polytechnic lecturers and trainers who have industry experience and professional certifications. 	<ul style="list-style-type: none"> Implement statutory status for all polytechnics; Benchmark Ministry's TVET providers with regional and international organisations; and Improve cost-efficiency and percentage of income generated at all Ministry's TVET providers.
C Strategy C Streamlining qualifications	<ul style="list-style-type: none"> Collaborate with other ministries and agencies on a single National Qualification Framework for TVET; and Develop comprehensive plan for international recognitions. 	<ul style="list-style-type: none"> Align TVET programmes with latest national qualification framework; Enhance effective and flexible learning pathways at all Ministry's TVET providers to optimize talent potential, acquire recognition and facilitate articulation between various pathways and qualifications. 	<ul style="list-style-type: none"> Acquire international recognition from relevant bodies and institutions; and Implement a seamless articulation system for TVET.
D Strategy D Rebranding of TVET	<ul style="list-style-type: none"> Identify and introduce high tech and high value programmes; Rebrand TVET as an attractive choice for students and parents; and Enhance international reputation and branding e.g. APACC and Dublin Accord; 	<ul style="list-style-type: none"> Create database of success stories; Develop comprehensive plan for articulation between programmes or levels or institutions; and Develop funding mechanism to finance international collaboration and student/staff exchanges. 	<ul style="list-style-type: none"> Set up a national comprehensive data center for TVET which include data on students, staff, courses, graduate employability, alumni, international students etc.

Conclusion

The Ministry aims to be a premier higher education TVET provider that develops skilled talent to meet the growing and changing demands of industry, and promotes individual opportunities for career development. At present, however, Malaysia lacks sufficient quality TVET graduates to help drive innovation and develop a knowledge-based economy as Malaysia transition from a middle- to high-income nation.

As such, the Ministry proposes greater alignment and integration amongst the major stakeholders – education providers, qualification agencies, industry bodies, and employers. In particular, the strategies emphasise a shift from government-led to industry-led design, development and delivery of TVET programmes.

Tracking measures

The Ministry will track the progress and impact of this Shift against a set of outcome-based measures. These measures are not intended to be exhaustive and may evolve over time. Targets will also be set for each measure on an annual basis.

- Growth in number of post SPM **students enrolled** in TVET programmes;
- Growth in number of TVET programmes with **international recognition or accreditation**;
- **Cost per student**; and
- **Completion rate** (such as the percentage of students who complete TVET programmes).

Shift

#

5



Financial Sustainability

Malaysia needs a long-term financing system for higher education that can sustain and rapidly improve the nation's ability to provide accessible, equitable, high-quality education that meets international standards. The Ministry of Education (the Ministry) is responsible for developing and overseeing compliance with its higher education policy framework and regulations, as well as financing the construction and operations of public higher learning institutions (HLIs), which include universities, polytechnics, and community colleges. The Ministry also provides scholarships and loans to students in public and private HLIs. In addition to Government funding, the private sector also plays a critical role by establishing private HLIs, contributing to public HLIs and providing scholarships to students. This chapter focuses on the transformation needed to secure the financial sustainability of Malaysia's higher education system, covering both public and private institutions. It also discusses the Ministry's move away from the blanket funding and block grants it gives to public HLIs today irrespective of performance, to having HLIs find new sources of revenue to fund their programmes and student services, without reducing access or compromising the quality of the education they deliver.

Why it matters

The financial sustainability of the higher education system must be addressed at three levels:

- **System-level:** Ensure continued access to affordable, quality higher education that meets international standards;
- **Institution-level:** Ensure HLIs have a wide range of funding sources that can help develop and realise their long-term academic and strategic goals; and
- **Student-level:** Ensure no qualified student is denied higher education due to affordability.

Greater focus on value for money

The world relies on quality, higher education to solve many of today's biggest health, economic, environmental, and security challenges. As global knowledge expands and new fields and technologies emerge, the corresponding standards and demand for higher education also rise. At the same time, countries around the globe face increasing budgetary constraints when enrolment in higher education is rising. These challenges have forced higher education systems worldwide to focus on improving productivity and ensuring good value from their investments in higher education.

Costs of delivering higher education are rising globally

Higher education costs are increasing because standards are continually rising, international requirements are expanding, and the need to upgrade infrastructure is on-going. Thus, the per student cost of higher education has climbed at all HLIs by 14%¹ in Organisation for Economic Co-operation & Development (OECD) countries from 2000 to 2007. In Malaysia, the average per student cost of higher education at public HLIs rose 7% per annum from 2004 to 2013. Public spending constraints following the recent economic crises have sparked public debate in many countries on the need for greater private sector contributions to higher education.

Higher education must remain accessible to every qualified Malaysian

Higher education has greatly influenced Malaysia's development by creating a workforce capable of driving economic growth. Malaysia views public education as the most effective path to upward social mobility and a major benefit to its citizens, their families, their communities and the country as a whole. In recent years, Malaysia has also seen an increase in demand for higher education due to national economic programmes, such as the Economic Transformation Programme (ETP), that will create 3.3 million new jobs by 2020, the majority of which are medium- to high-skilled jobs. For these reasons, access to higher education and its financial sustainability are top priorities for the Government.

Malaysia's institutions are over-reliant on government funding

In Malaysia, both public and private HLIs (including private universities, university colleges and colleges) rely mainly on the Government for direct grants, allocations, and student loans, particularly from the Higher Education Fund Corporation or *Perbadanan Tabung Pendidikan Tinggi Nasional* (PTPTN). Government grants today fund more than 90% of the expenditure of public HLIs. While private HLIs are primarily funded by student fees, around 48% of their students benefit from student loans from PTPTN. In OECD countries, the proportion of higher education expenditures funded by non-governmental sources grew by 7% between 2003 and 2013. This private spending was mostly raised by HLIs via private research, fees, private contributions, and other income-generating activities. The Malaysia Education Blueprint 2015-2025 (Higher Education) or MEB (HE) requires HLIs in Malaysia to seek alternative additional sources of revenue to make them more flexible, stronger, and, financially sustainable. It will also enable them to forge mutually-beneficial alliances with industries.

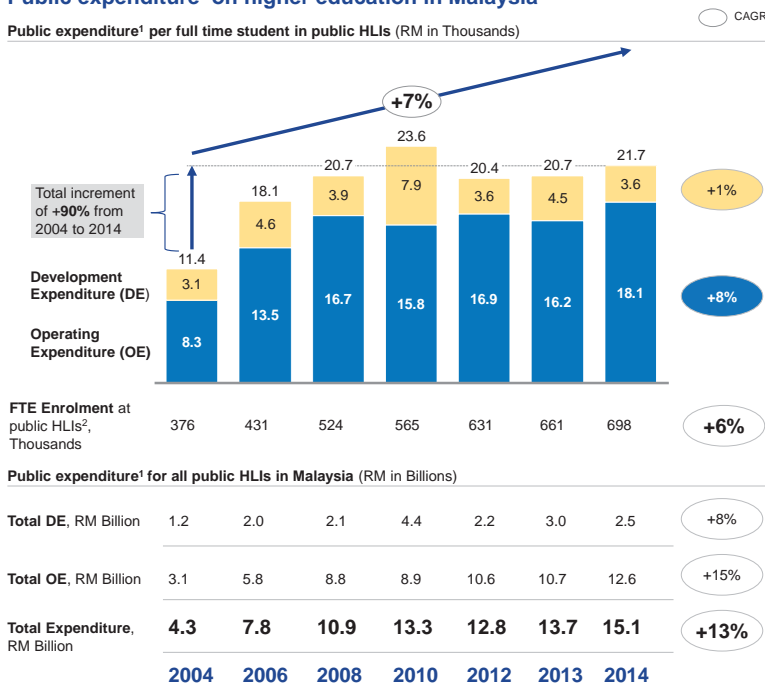
¹ OECD. (2014). *Education at a Glance 2014*. Retrieved from <http://www.oecd.org/edu/education-at-a-glance-2014.pdf>

Where we are

EXHIBIT 5-1

Public expenditure¹ on higher education in Malaysia

Public expenditure¹ per full time student in public HLIs (RM in Thousands)



¹ Excludes public university operating expenditure covered by non-government sources, e.g., tuition fees, investment income, rental. Includes operating expenses at the Ministry level, e.g., teaching hospitals, MQA, Divisions under Ministry.
² Full-Time Equivalent (FTE) numbers include students from public universities, community colleges, polytechnics and KTAR.
SOURCE: MOE – Higher Education Finance Division

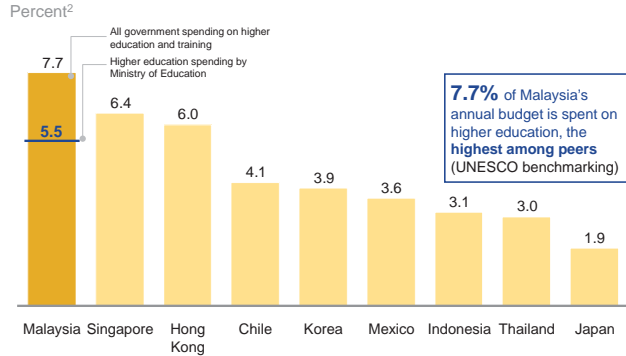
The Government's commitment to higher education has been consistently high, and it has allocated a substantial proportion of the national budget to higher education. In addition to the Ministry, other ministries and agencies contribute funds to higher education scholarships and institutions. By providing loans to students who are eligible to enrol in Malaysia's HLIs, the PTPTN has helped increase enrolment in the country's HLIs, most notably in private HLIs. Historically, changes in funding have spurred reforms in the higher education system. A new funding framework is therefore now needed to further increase participation in higher education, deliver more value for money to HLIs, and benefit the overall system.

Significant and consistent investment in higher education

The Government is deeply committed to higher education. From 2004 to 2014, it increased its total expenditure on higher education by 13% per annum, from RM4.3 billion to RM15.1 billion. This increase was driven by a 6% increase in student enrolment and a 7% rise in per student costs (Exhibit 5-1).

As a percentage of the national budget, higher education spending by the Ministry has remained stable at about 5% or above per annum (Exhibit 5-2). Beyond direct government grants, the total value of student loans granted by PTPTN has more than doubled since 2001, to RM5.5 billion of loans approved in 2013 alone. As of October 2014, PTPTN has provided loans totalling RM49.4 billion to more than 2.1 million eligible students who would otherwise not have been able to pursue higher education.

EXHIBIT 5-2

Higher education expenditure as a percentage annual national budget¹

Malaysia's cost per student is comparable to the OECD average and developed countries

The overall cost of delivering higher education in Malaysia is comparable to developed countries after taking purchasing power parity (PPP) into account (Exhibit 5-3). Specifically, Malaysia's total spending per student (adjusted for PPP) for public HLIs is comparable to the international average (according to OECD analyses of 50 countries), and is equivalent to that of the United Kingdom (UK) and Japan, but higher than South Korea.

Wide range of cost per student across public HLIs in Malaysia

Today, the per student cost of delivering higher education to students enrolled in the Malaysian public higher education system is about RM20,700 annually, which includes the institutions' operating costs, capital expenditure, as well as the Ministry's expenditure. The average operating cost per student for public universities in Malaysia is estimated to be around RM18,000 per student.

However, the operating cost per student differs across public universities. The operating cost per student can vary depending on the size of the university, the programmes it offers, its location, as well as the productivity and efficiency of its operations. For example, some non-research universities incur higher operating costs per student than the five Malaysian Research Universities (MRUs) which have a higher proportion of postgraduate and doctoral students.

Limited funding sources for HLIs

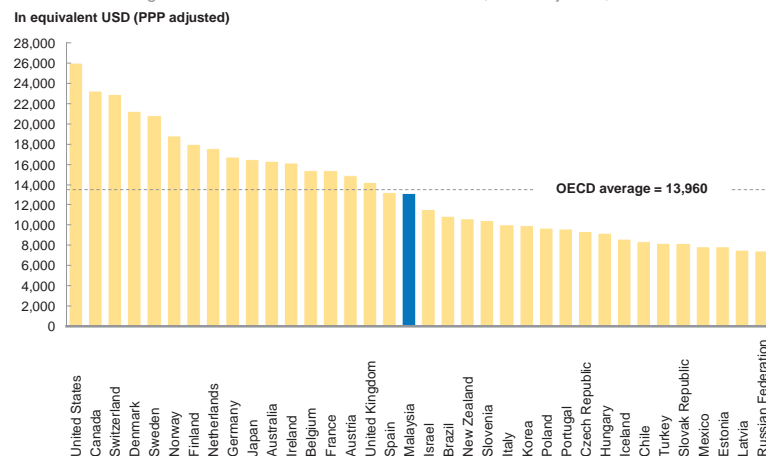
The range of funding sources for both public and private HLIs in Malaysia is limited. Private HLIs are funded mainly from student fees, including PTPTN loans, whereas even the largest and most established public HLIs, such as the MRUs, are funded mainly from government grants.

To strengthen their financial sustainability, some of Malaysia's public and private HLIs have established various forms of endowment funds, including *Universiti Teknologi Petronas* (UTP), Sunway University, and *Universiti Teknologi Malaysia* (UTM).

EXHIBIT 5-3

Cost of delivering higher education to each student

Annual cost of higher education Institutions over enrolment, PPP-adjusted, 2011



Objectives

The Ministry aims to establish a sustainable financing system for Malaysia's higher education that is focused on outcomes and performance, where stakeholders in public, private, and social sectors all contribute. This will involve:

- **Continued government investment** of a large portion of the national budget in the higher education system for a return on investment that is comparable to that of peer countries;
- **Diverse sources of funding** for public and private HLIs to allow continuous improvement in the quality of their programmes, and more prudent and innovative use of their resources; and
- **More targeted support** for socio-economically disadvantaged students to make enrolment more affordable and accessible to everyone who is eligible for higher education.



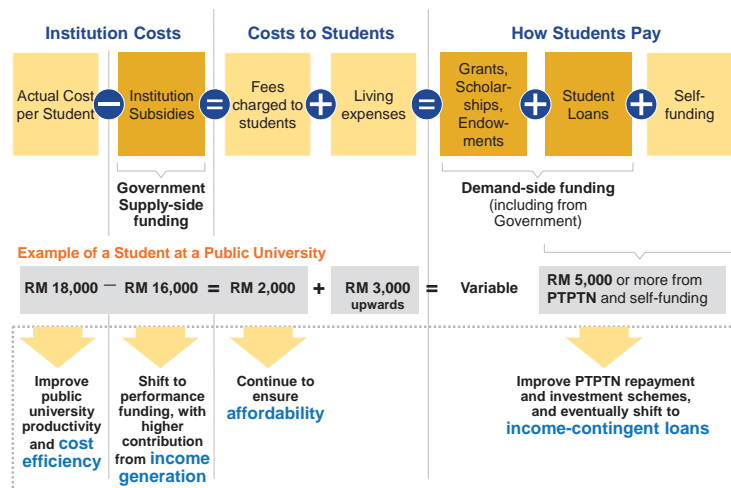
Principles

Five interrelated principles underpin the transformation of the higher education financing system:

- Ensuring the higher education system is affordable** – Changes in how higher education is funded will not compromise its availability and accessibility to all eligible students, irrespective of their financial circumstances;
- Linking funding to performance and outcomes** – Value for money will be a priority. The government will link its funding of HLIs directly to their outcomes and performance;
- Shifting from supply-side funding to demand-side funding** – The Ministry will reduce block grants to HLIs, and instead allocate funds according to the performance of HLIs and student demand for specific programmes. Some HLIs will be able to quickly respond to student demand and others will have to make improvements;
- Empowering institutions to become financially flexible and accountable** – HLIs will be allowed greater flexibility in finding new, diverse sources of funding, in better leveraging existing assets, and in allocating their funding. There will also be greater transparency in their financial reporting and the outcomes they are delivering; and
- Placing students at the heart of the system** – The Ministry and institutions will ensure students are well-informed about their choices of HLIs and programmes. Student choices will shape how funding is distributed and the development of the higher education system.

EXHIBIT 5-4

Annual higher education costs for public HLIs and students



How is higher education financed for each student in Malaysia?

Exhibit 5-4 summarises how higher education is financed today for each student in a public university. The actual **institutional cost** of delivering higher education per student is on average around RM18,000 for public universities, which is significantly higher than the fees charged to each student (**student cost incurred**).

The current system incorporates a hidden blanket subsidy for every student of around RM16,000 to cover operating expenditure of public universities. This subsidy is delivered through block grants to institutions and the total amount does not vary significantly from year to year.

The strategies and initiatives outlined in this chapter will address the key dimensions of this student financing model. They will include reducing the actual cost of delivering education for each student, shifting institutional subsidies towards performance funding, increasing income generation in HLIs via higher levels of investment, as well as enhancing the current PTPTN student loan system. At the same time, the Government is committed to ensuring that higher education fees for all students continue to be affordable.

Higher education financing for students in private HLIs comprise a combination of student self-funding and scholarships from foundations or government agencies such as *Jabatan Perkhidmatan Awam* (JPA) and *Majlis Amanah Rakyat* (MARA), as well as from PTPTN, where 48% of students in private HLIs benefit from PTPTN loans.

Strategies and initiatives

The strategies and corresponding initiatives defined below will involve a significant departure from the existing way in which the higher education system in Malaysia is financed. To support the desired improvements in access and quality, it is vital to ensure that more investment is available for higher education. The strategies and initiative have therefore been designed to allow higher levels of investment while guaranteeing greater sustainability.

Strategy A: Improving the funding formulae for public HLIs to emphasise outcomes, make funding sources and uses transparent, and establish clear links to performance. This strategy focuses on improving the way funds to public HLIs are allocated.

Strategy B: Enhancing the student loan system to make higher education available to all eligible students, regardless of income level. This strategy focuses on changes to the student loan system and the transformation of PTPTN.

Strategy C: Diversifying revenues for HLIs to reduce their reliance on public funding and encourage them to be more entrepreneurial in securing funding source. This strategy addresses the diversification of revenues at both public and private HLIs, in terms of new incentives and processes, as well as potential regulatory changes.

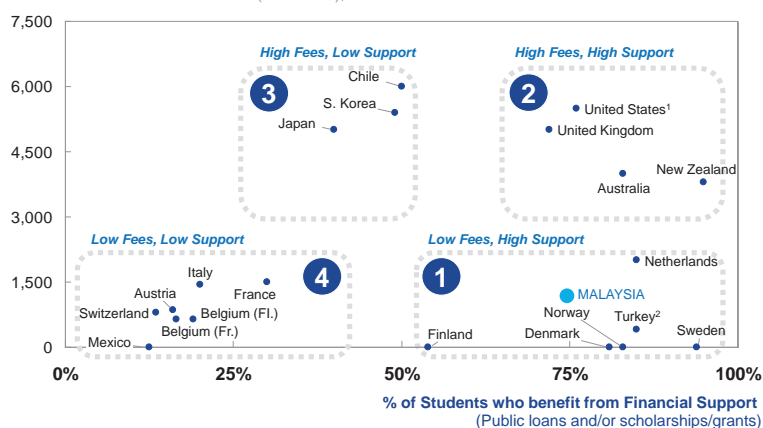
Strategy D: Optimising costs in the higher education system to improve value for money and efficiency. This strategy addresses the need for higher productivity and efficiency in public HLIs.

The Ministry will phase in the new financial framework to give institutions, and students time to adjust. Differences in the type of institution, their missions and student population profiles will be taken into considering during implementation.

EXHIBIT 5-5

Government support and student fees for public HLIs

Average Tuition Fees for Public HLIs (first degree programmes)
Full-time national students in USD (PPP basis), 2010-11



¹ Figures are reported for all students (full-time national and full-time non-national/foreign students)
² Cost of higher education is lower in Turkey than many countries (40% below OECD average) and 70% of financial support comes in the form of student loans
SOURCE: UNESCO, OECD Education at a Glance

How do other countries finance higher education?

Exhibit 5-5 summarises how higher education for students is financed in other countries, based on OECD research. It maps the costs incurred by each student based on average tuition fees of public HLIs (adjusted for PPP) against the level of financial support provided. Financial support for tuition fees for each student can come in the form of scholarships, grants, or public loans such as PTPTN in Malaysia.

There are four common models for higher education financing depending on the level of tuition fees and the degree of financial support provided to students. Malaysia currently adopts the same model of higher education financing as several Scandinavian countries such as Norway, Finland, Denmark and Sweden, where tuition fees in public HLIs are relatively low and most students benefit from public financial support. Typically, countries within this model are developed countries that can sustain this level of financing support due to their high per capita income and high taxation rates. This is not currently the case in Malaysia.

Initiative A1

Changing funding formulae for public HLIs to better link funding to performance and outcomes

The objective of this initiative is to better leverage existing resources and to accelerate improvements in student outcomes and institutional efficiency. The Ministry has already taken an important step in this direction by implementing Outcome-Based Budgeting (OBB) at the Ministry level.

In the current system, public HLIs are largely funded by government block grants on the basis of a notional annual allocation of seats and programmes, with no clear link between funding and performance or demand. Public HLIs submit itemised funding requests each year based on estimated expenditure on emoluments, IT, services, student enrolment and other items. Approved funding is then disbursed to institutions, which are tracked on spending against the allocation.

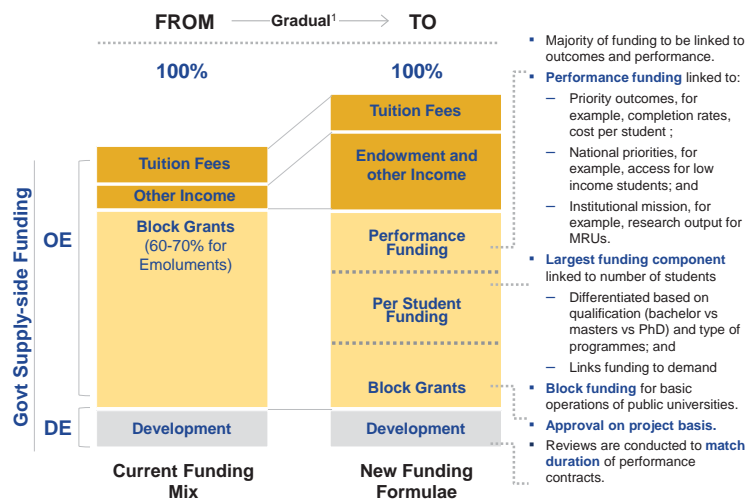
This system risks stifling growth of successful HLIs and insulating less successful HLIs from competition. Students also have less opportunities to choose between institutions on the basis of quality and value for money. Even when performance funding has been used, the dedicated amount has historically been a very small percentage of overall funding to HLIs. This limits meaningful changes in behaviours or practices across the higher education system.

Under the new funding formula, the mix of funding for each public HLI will change (Exhibit 5-6). The proportion of block grants will reduce and a significant proportion of funding from the Government to institutions will come in the form of performance funding as well as per-student funding. There will be greater levels of investment in higher education overall, as more funding will arise from endowment funds and other income-generating sources, in addition to government funding. Going forward, the Ministry will implement the new performance and outcome-based funding formulae for public HLIs by:

- **Defining clear key performance indicators (KPIs) for each public HLI** - The Ministry will adopt a new quality assurance framework for public HLIs which will define clear KPIs carefully tailored for each HLI across key dimensions, such as academic teaching and curriculum, research outcomes, contributions to the community, and organisational improvements (Exhibit 5-7);

EXHIBIT 5-6

Funding formula for public universities



¹ The implementation of the new funding formula will be stage-gated based on the different readiness levels and types of public universities

The Ministry will adopt performance and outcome-based funding policies to supplement or replace historic block grant funding allocation methods for public HLIs.

Box 5-1

Performance and outcome-based funding

Many countries are increasingly implementing performance and outcome-based funding in their higher education systems, such as Australia, USA, the UK and Singapore. This is where government funding to institutions is tied to specific predetermined goals, or outcomes. This funding can be either an incentive towards particular objectives or as rewards for achieving them. The objectives of this approach typically include:

- **Aligning government funding** with national education priorities, and with institutional priorities;
- **Holding institutions accountable** for performance and rewarding desired outcomes; and
- **Increasing incentives for institutions** to scale proven best practices, improve efficiency and enhance student services.

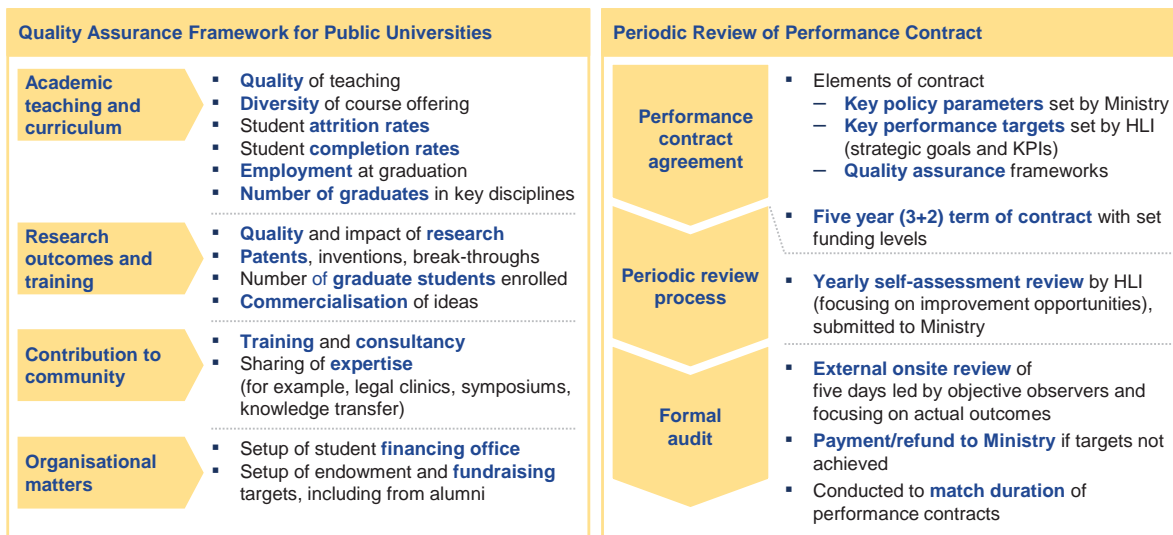
For example, the National University of Singapore (NUS), one of the top universities in Asia, shifted from per student enrolled funding to an outcome-based funding model. Government funding is conditional upon delivery of specific outcomes in various aspects, such as delivery of national manpower or talent needs. NUS moved from a process of submitting annual government funding requests, to a five-year performance contract and budget cycles. This allows for greater flexibility, encourages better management of resources, and enables surpluses to be retained by the university. Where outcomes are not delivered, funding will be returned to the government.

Several relevant practices have been identified from other countries which will be applied to the implementation of performance and outcome-based funding for HLIs in Malaysia:

<p>1</p> <p>Place enough funding at stake to create meaningful incentives.</p>	<p>2</p> <p>Allow HLIs with different missions to be measured by different standards.</p>	<p>3</p> <p>Keep the funding formulae clear, transparent, and simple.</p>	<p>4</p> <p>Maintain focus on national and institutional goals, such as improving employability rates, completion rates, enrolment, and graduation of underprivileged students.</p>	<p>5</p> <p>Align the funding formulae with the country's economic needs.</p>	<p>6</p> <p>Preserve academic quality by incorporating student learning measurements.</p>
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EXHIBIT 5-7

Performance contracts for greater autonomy and accountability for public universities which are ready



- Replacing block grants with performance-linked and per-student funding** - Performance funding will be tied to specific student outcomes, national priorities and the institutional mission of the HLI. Per student funding will be linked to demand, and differentiated based on qualification levels (for example undergraduate, postgraduate), and types of programmes, (for example engineering, social sciences, business, medicine);
- Implementing 5 year performance contracts (3+2)** - For public universities, the Ministry will institutionalise performance contracts linked to the new quality assurance framework, and with a corresponding 3+2 year funding commitment (Exhibit 5-7). These contracts will be tailored for each university, and will be implemented based on the readiness level of each institution; and
- Targeting government investment in priority areas** - Public investment will be increasingly targeted to priority programmes to ensure an appropriate supply of talent to meet the country's needs.

The new funding model is intended to better reflect the needs of the nation, economy and students, in addition to the needs of the institutions. This will expose institutions to more competition. Rather than providing funding regardless of the quality of teaching, HLI financing will increasingly follow the student who in turn will be able to make more informed decisions about which HLI to apply to based on their performance. The Government will also be able to align institutional and national priorities by differentiating funding levels and incentives.

This new model will be phased in over several years to prevent large disruptive shifts in funding, focusing first on institutions which are ready to adopt it. The pace, metrics, and nature of implementation will be tailored based on the type, profile and characteristics of the HLI.

Box 5-2

Who should contribute to costs of higher education?

A higher education qualification is of benefit both to the individual, through higher levels of social contribution and lifetime earnings, and to the nation, through better economic growth and the improved health of the community. For a financially sustainable higher education system, it is important to get an appropriate balance of contributions from the individual and from the government to reflect these benefits.

Higher education is sometimes considered a public right that should be accessible to all without financial burden. This burden could discourage lower-income students from participating which then creates further social inequity. However, countries globally have made the case for partial contribution by individuals to the cost of higher education, as follows:

- | | | | | |
|--|--|---|---|--|
| <p style="text-align: center;">1</p> <p>Direct benefits and returns to the individual are high from higher education (estimated lifetime net present value of higher education is US\$145,000 for OECD countries), and the individual should therefore contribute to the cost.</p> | <p style="text-align: center;">2</p> <p>Financial support systems such as student loans, need-based grants and scholarships can ensure all students have access to higher education, while sharing responsibility for the cost once benefits are realised.</p> | <p style="text-align: center;">3</p> <p>Supporting a fully government-funded model typically requires high taxation and/or trade-offs against other government expenditure, or limitations on expanding higher education participation.</p> | <p style="text-align: center;">4</p> <p>Without contributions, there is no trade-off for students on costs and benefits of higher education, potentially leading to over-enrolment in some courses and future under-employment.</p> | <p style="text-align: center;">5</p> <p>Unlike primary and secondary education, higher education is neither compulsory nor universal. Not everyone is qualified or chooses to enter higher education, and it is reasonable to ask those who gain private benefits from higher education to help fund it rather than rely solely on public funds collected through taxation from people who may not have participated in higher education themselves.</p> |
|--|--|---|---|--|

Countries around the world with very different social support models all require student contributions to higher education, such as Japan, Korea, Australia, New Zealand, the United States, and Canada. Even Scandinavian countries like Finland, Sweden, and Denmark have started introducing student tuition fees for some programmes.

The Government is committed to ensure continued affordability of higher education tuition fees for all Malaysians, and that financial constraints are not a barrier to access for any eligible student. In parallel, postgraduate fees and international student fees at public HLLs will be adjusted to better reflect market demand, the quality of programmes, and the actual costs of delivery by HLLs.

Initiative A2

Achieving transparency and standardisation in financial reporting across institutions

The objective of this initiative is to create greater transparency and accountability of public universities by standardising and enhancing their financial reporting practices. Financial statements are critical in providing a true and fair view of the financial performance and health of the HLI, and are relied upon by a range of stakeholders to improve stewardship of HLIs. These stakeholders include the Government, governing bodies of the HLI, funders, donors, grant-awarding bodies, staff, students, creditors, other HLIs and the general public.

External reporting of public universities is governed by the Statutory Bodies (Accounts and Annual Reports) Act 1980 and applicable standards prescribed by the Malaysian Accounting Standard Board (MASB). Today, public universities prepare and submit different financial reports adhering to various requirements, including to the Ministry and to Parliament. These reports can be inconsistent, with potentially useful information not clearly disclosed, and it is difficult to make meaningful comparisons across different public universities. The Ministry will institutionalise higher standards of financial reporting for public universities by:

- **Establishing a common set of standards** and a joint statement of recommended practices² in consultation with stakeholders, for all public universities to provide consistent and comparable financial information;
- **Harmonising financial reporting by requiring** all public universities to prepare and submit one consistent set of financial reports based on these standards, which will satisfy requirements of legislation and of key stakeholder groups; and
- **Requiring public universities to continue to publish their annual financial statements**, and to make these easily accessible to the public

The consolidated financial statements of public universities should be relevant, reliable and understandable. They will give a true and fair view of the financial position of the institution at the balance sheet date, such as total income and expenditure, sources and uses of funding, and cash flows for the year, whether channelled through the institution as an entity or through associates, joint venture entities, or subsidiary holdings.

Initiative B1

Enhancing PTPTN performance and sustainability

The objective of this initiative is to transform the performance of PTPTN. This involves improving the repayment rate of student loans in the short term, and in the long term, transforming the overall student loan model and financial support structure to ensure greater sustainability.

The number of students who received loans from PTPTN have been rising steadily, to 201,000 new PTPTN borrowers in 2013, comprising 48% of the total private HLI intake and 75% of the total public university intake of 2013. PTPTN has a 100% approval rate for loan requests, where no student who applies is denied a loan.

PTPTN student loans are a vitally important part of the higher education system in Malaysia, for both public and private institutions, and for students. However, there is a need to significantly improve the sustainability of PTPTN. More than 2.1 million students have benefitted from PTPTN since its inception, but 51% of the outstanding loan balance remains in default. Whilst repayment rates have improved in recent years, 34% of borrowers still defaulted in 2013. More than 170,000 borrowers have yet to make any form of repayment at all.

Several critical issues will need to be addressed, including ensuring greater support for low-income students, improving repayment rates, encouraging higher levels of personal investment savings for education, linking availability of loans with institutional performance, and transforming the overall PTPTN lending model. The Government will enhance the performance and sustainability of PTPTN by:

- **Shifting towards a needs-based approach** – There will be a shift towards a more needs-based lending model. Any student who is eligible for higher education will continue to benefit from student loans, but there will be additional support targeted and available to students from low-income backgrounds, such as families who are 1 Malaysia People's Aid Scheme (BR1M) recipients. The Government will also review the subsidised interest rate of PTPTN loans on an ongoing basis;
- **Improving repayment rate of loans** – The Government will continue to strengthen enforcement for those who can afford to repay but do not, to provide incentives for early settlement and to make it easier for borrowers to repay on time. Measures include:
 - Providing incentives for lump sum or early settlement for loans;
 - Disbursing funding for tuition fees directly to both public and private HLIs, with funding for living costs separately disbursed to students;

² In the UK, the Statement of Recommended Practice (SORP) for Further and Higher Education apply to institutions preparing accounts under UK GAAP to present a "true and fair view" and improve the quality of financial reporting.

- Collecting payments directly via salaries or the tax system;
 - Listing defaulters on credit systems for severe non-repayment (more than 3 years) such as the Central Credit Reference Information System (CCRIS), which will affect availability of credit of these borrowers; and
 - Pursuing more onerous enforcement actions for particularly “hardcore” defaulters who are able to repay but do not, such as international travel restrictions or legal remedies.
- **Encouraging education investment and savings** – The Government will continue to incentivise education savings and will establish a new investment fund for education (“*Tabung Siswa*”) to provide additional support to low-income students, with tax deductions and incentives for corporations who contribute to the fund. For individuals and families, the National Education Savings Scheme or *Skim Simpanan Pendidikan Nasional* (SSPN-i) will continue to be enhanced, with insurance coverage, matching grants for low-income families, annual dividends, tax relief on savings, and new savings products, such as the SSPN-i Plus;
 - **Linking loans with institutional performance** – Today, the quality and performance of the HLI is not taken into account in the loan approval process. As part of the shift towards a stronger link between performance and loan funding for both public and private HLIs, loan amounts will be reduced for specific programmes or institutions with consistently low repayment rates. Once the enhancement of the institutional rating system such as SETARA or MyQUEST is complete, all private HLIs will be required to adopt the new system for continued access to PTPTN loans for students. Loans will be limited for students at HLIs which consistently fail to meet minimum quality rating standards or performance targets agreed with the Ministry;
 - **Transforming PTPTN into a new Malaysia Education Fund** – Feedback from students and stakeholders indicate that the current loan system can be confusing, and must be simplified or communicated more clearly to students and parents. This will be carried out in conjunction with renewed marketing, rebranding, and an overall revamp of PTPTN into the new Malaysia Education Fund. There will be an emphasis on greater shared responsibility across the Government, parents, students and the private sector for funding the higher education system for future generations; and
 - **Introducing income-contingent loans for all students** – The student loan model in Malaysia will shift towards an income-contingent basis (see Box 5-3). Whereas the standard student loan model requires students to repay loans even if they have not benefited from higher salaries or are not employed, under the new income-contingent loan model students only pay if they can afford to, and if they have benefited. The Government will pursue relevant legislative and regulatory changes to implement this starting in 2016.

Box 5-3

What are income-contingent student loans?

Transparency of information, advice, and guidance for students plays a critical role in the decision of whether to pursue higher education. The current financing and student loan system is often poorly understood – some students and their families are worried about running up debt which they cannot afford to repay. Some students do not understand the implications of student loans, and are left with a financial burden after graduation that they are ill prepared to handle.

To address many of these issues, the student loan model in Malaysia will shift towards an income-contingent basis, as part of the overall transformation of the PTPTN. This means that loan repayments will be linked to the eventual income of the borrowers.

Graduates will not service the loan until they start to earn income from work. These graduates will pay for higher education only in proportion to the financial benefit they have received. Those who get less financial benefit from higher education pay less, those with higher income will pay more. Those graduates with very low income will pay nothing. No graduate will face demands for loan repayments that they cannot afford to make. The relevant income level and repayment thresholds will be reviewed and adjusted regularly.

The higher education system in Malaysia will continue to be funded by the Government, together with contributions from graduates. Each graduate will be making different contributions to the overall costs of higher education, which will vary widely according to how much benefit they have received from their education.

Initiative C1

Incentivise creation of endowment funds and contributions to higher education

The objective of this initiative is to establish stable and secure sources of funding for HLIs from endowment funds to allow greater self-sustainability and lesser reliance on public funding. An over-reliance on government funding also restricts opportunities for HLIs in long-term planning compared to more diversified HLIs with higher degrees of freedom and independence in investing. All public universities will set up respective endowment and *waqf* funds, with private HLIs encouraged to do so as well (see Box 5-4).

Leading universities across the world rely on a wide variety of sources of funding, including investment income from endowment funds, gifts from individuals and corporations, university assets, as well as other income generating activities. For Malaysian universities, beyond government funding (via grants and PTPTN), other available funding sources include endowments and *waqf*, scholarship from private and public institutions as well as *zakat* assistance.

There is currently not yet an established culture of giving to higher education endowments in Malaysia. Only a few HLIs in Malaysia have major endowment funds, such as UTM, UTP, and Sunway University. Investment income from endowments fund could be utilised to sponsor scholarships, professorships, research and academic programmes, and operating or capital expenditures of HLIs. HLIs will establish endowments with the following in place:

- **Independent governance** including a Board of Trustees for the fund with clear fiduciary responsibilities;

- **Clear separation and decision-making** between investment activities of the fund and operations or administration of the HLI;
- **Dedicated professional management** overseeing investment and allocation of investment funds and assets; and
- **Effective investment policy** and clear spending policy on the use of annual investment income.

The Ministry will support both public universities and private HLIs in establishing endowment funds by:

- **Developing clear guidance and sharing best practices** on HLI endowment funds, including the establishment process, governance structures, professional management of investments, operating model, and fundraising approach;
- **Introducing matching grants for HLIs** during the initial fund-raising and establishment period of the endowment fund;
- **Allowing land and assets of public universities** to be used to seed the endowment fund, including facilitation by the Government of any required regulatory or policy changes;
- **Reviewing tax incentives** for individuals and corporations to encourage contributions and charitable giving to endowment funds of public and private HLIs; and
- **Instituting KPIs for public universities** linked to the establishment of endowment funds and level of diversification on sources of funding.

Box 5-4

A six-step plan for establishing an endowment fund

Endowment funds represent money or other financial assets that are donated to HLIs. The endowment is purely for investment purposes, to ensure stability of income for the HLI that is independent of fund-raising or operations of the HLI. Typically, endowment funds follow fairly strict investment and asset allocation policies and guidelines to yield the targeted return requirement without taking on too much risk. There are six steps needed to establish an endowment:

- **Form an advisory board** to assess the readiness of the HLI, which will review the proposed mission, structure, and donor base, as well as seek commitment of the main governance bodies, stakeholders, and HLI leadership;
- **Develop a case statement** that outlines how the endowment fund will support the mission and vision of the HLI as well as any future development or priority areas;
- **Design an organisational model** for the endowment funds, including internal governance structures and decision-making authority;
- **Set up organisation** and recruit permanent members for the steering and investment committee; establish the legal entity and agree on endowment policies; setup staff to run fundraising and administration;
- **Start fundraising** by developing the marketing plan and identifying target groups (for example, alumni), corporation and/or foundations; identifying the best communication channels for each target group; and
- **Build stewardship** to manage relationships with donors to establish lifelong relationship between them and the HLI, and establish basis for future contributions.

Initiative C2

Enhancing revenue and income generation from services and assets of HLIs

The objective of this initiative is to further diversify the sources of funding for public HLIs via income-generating activities. Public HLIs differ in terms of the degree and type of income-generating activities they undertake. Some seek to cover running and lifecycle costs of services they provide, others establish for-profit entities to maximise income.

The Ministry and public HLIs will improve relevant governance structures and professionalise their management of income generation, while staying focused on their core education mission. Income generation for HLIs can arise from the following:

- **Tuition fees** from students—local and international, undergraduate and postgraduate—based on the quality of programmes and the overall institution;
- **Service-related income** comprising management of services-related facilities or events such as sports, conferences, catering, as well as provision of cultural facilities such as halls, theatres, or libraries;
- **Asset-related income and rental yield** by improving property management and increasing utilisation of buildings, land, and assets of the HLI, including residential, retail, and commercial properties;
- **Consultancy and contracts** with private partners for research, teaching, advisory activities, training, or executive education programmes by the HLI;
- **Publishing income** from books, journals, and other publications, as well as printing and production activities; and
- **Commercialisation income and royalties** from research results and intellectual property of academic staff.

Going forward, greater diversity in sources of HLI funding is expected to generate a more competitive, entrepreneurial, and performance-oriented culture in the system. The Ministry will undertake to support HLIs by:

- **Developing clear guidance and sharing best practices** on alternative revenue generation for public HLIs. Each public HLI will be expected to develop their own strategy and operational plan to improve income generation, while still continuing to deliver on their core education mission;
- **Clarifying and streamlining relevant and existing guidelines**, circulars, and requirements on revenue generating activities by public HLIs, including commercial activities and partnerships with private sector entities; and
- **Benchmarking and defining standard metrics** for recording and measuring effectiveness of HLI income generation, while controlling for measures of quality for all students. The data collected will be made publicly available.

Box 5-5

Waqf – in higher education¹

A *waqf* is an instrument of wealth creation and distribution that is based on Islamic divine rules and teachings. It is a perpetual, irrevocable, and inalienable instrument of Islamic endowment, which is aimed at improving the socioeconomic well-being of society. The governance and function are similar to an endowment fund, where a *waqf* is a form of transfer of assets withheld as a trust by individuals or organisations, and the benefits associated with the assets are used for charitable or philanthropic purposes. Once endowed, the assets cannot be transferred, alienated or gifted. It is considered one of the oldest forms of charitable institutions in the world. Several HLIs in Malaysia have started establishing *waqf* funds for education, including UPM, UKM, UTM, USIM, and IIUM. As a savings instrument, the *waqf* or property is held or preserved to retain its value. This requires continuous returns and increase in asset value over time while ensuring the perpetuity of the *waqf* benefits for societal well-being. Its dynamics are based on altruism, philanthropy and the teachings of the *Qur'an* and *Sunnah*.

¹ Salleh, A.H.M., Muhammad, N.S., Adham, K.A., (Eds.). (2014). *Managing Waqf for Societal Well-Being*. Serdang: Universiti Putra Malaysia

Box 5-6

Private Endowments – The Jeffrey Cheah Foundation¹

The Jeffrey Cheah Foundation was officially established in 2010, following the inception in 1997 of the Sunway Education Trust Fund. It is the first-of-its-kind endowment and foundation structure for private HLIs in Malaysia. The Foundation is governed by a Board of Trustees and is modeled after established eminent universities across the world. The ownership of Sunway Education Group was transferred in its entirety to the Jeffrey Cheah Foundation for perpetuity, and comprises five institutions, namely Sunway University, Monash University Sunway Campus, Sunway College, Sunway International School and the Jeffrey Cheah School of Medicine and Health Sciences. Operating surpluses are reinvested back into the institutions or disbursed for scholarships and research grants. The Foundation has been granted tax exemption, and donations are tax deductible. It is dedicated to giving back to society through sustainable quality education, enriching the lives of students, and is intended to be a catalyst for Malaysians to contribute to the shared cause of education.

¹ Jeffrey Cheah Foundation (2015). *A timeless commitment*. Retrieved from http://jeffreycheahfoundation.org.my/?page_id=215

Initiative D1

Improving productivity and cost efficiency of HLIs

The objective of this initiative is to improve the efficiency and productivity of HLIs in Malaysia, in other words, to produce more graduates for the same or less cost and without compromising quality. The operating cost per student for public HLIs in Malaysia vary widely from one to another, even after accounting for differences such as course mix and proportion of postgraduate and undergraduate students. The average cost per student for all public HLIs has also been rising at 7% annually, and the operating cost per student for public HLIs can often be higher than that of large private HLIs.

Cost management and optimisation represent significant opportunities for public HLIs in Malaysia. Public HLIs today are incentivised to adhere to their planned budget even if they would have been able to spend less. There is little incentive to effectively manage costs. The Ministry and public HLIs will focus on three main elements driving operating costs:

- **Improving instructional design to reduce costs.** HLIs will improve their instructional model and reduce costs by more efficiently leveraging technology, faculty, and industry or community partners. For example, HLIs could optimise their portfolio of programmes by focusing on their niche areas of expertise, rationalise consistently under-enrolled programmes, and use blended learning models to reach a wider audience at lower cost;
- **More efficient core support and services.** Core support services include institutional support (such as HR, IT, and finance), student services (such as financial aid, counselling, and enrolment), and academic support services (such as libraries, museums, and audio-visual services). HLIs will achieve greater cost efficiency and effectiveness by introducing lean processes, maximising use of shared services across campuses or faculties, and improving purchasing and procurement practices; and
- **Optimising non-core services and other operations.** Non-core services include dining halls, canteens, student housing, and athletics facilities. HLIs will evaluate which non-core services are critical to maintain and which to outsource or reduce. As far as possible, HLIs will also ensure that non-core services can generate enough revenues to be self-sustaining.

Going forward, HLIs will be expected to combine effective educational practices and good management to achieve their educational mission productively. The Ministry will undertake to support HLIs by:

- **Developing clear guidance, and sharing best practices** on improving productivity and efficiency of both instructional and non-instructional operations. Each public HLI will be expected to develop their own strategy and operational plan to improve efficiency and productivity;

- **Incentivising reductions in addressable spending** by HLIs for reallocation to other higher priority areas, especially in areas of operational efficiency and procurement of goods and services. This spending can be re-invested in other areas such as expanding seats available for students and providing academic and career counsellors to help improve student outcomes; and
- **Benchmarking and defining standard metrics** for recording and measuring HLI efficiency and productivity (such as cost per degree or per graduate), while controlling for measures of quality for all students. The data collected will be made publicly available for greater accountability.



Box 5-7

What are the benefits of the new financing system?

The new system aims to increase participation, improve quality, and create a sustainable long term future for higher education in Malaysia.

Access: Higher education in Malaysia will be expanded to meet growing demand from qualified students. To ensure ongoing expansion is sustainable, the Ministry will encourage private sector stakeholders to contribute to Malaysia’s higher education system.

Quality: HLIs will compete for students by offering programmes that prepare students for the workplace and that meet minimum standards. The new system will create more competition among HLIs for students, and result in better-performing HLIs with high-quality programmes.

Efficiency: Private and charitable contributions, as well as more income generating activities on the part of HLIs, will make the higher education

system more financially sustainable and enable it to grow. The Ministry will also reduce blanket subsidies for all programmes without diminishing the quality and accessibility of higher education.

The new system will deliver benefits to students, institutions and the Ministry. It puts students at the heart of the system by ensuring that students are better informed about the range of options available to them. Their choices will shape where funding is directed to. High-performing institutions will be able to expand faster with more funding to meet student demand; others will have to raise their game to respond. The Government will continue to play a vital role in allocating public funding to HLIs, and the nation will benefit from better outcomes that are aligned with national priorities across public and private HLIs.

Benefits: What does this mean for students, institutions, and the Ministry?

For students

- Better information on HLI and programme quality to help students make informed decisions;
- More need-based funding and support for students who need it the most;
- Students will only repay income-contingent loans if they can afford to, and if they have benefited from higher salaries;
- More merit-based scholarships for top performers and for national priority sectors; and
- Higher-quality education overall as HLIs compete to raise quality.

For institutions

- No “micro-management” from the Ministry. Instead the Ministry will focus on performance contracts and outcomes over 5 years;
- Better-performing institutions (with higher-demand programmes) benefit from more students and more corresponding funding;
- All HLIs stand to receive incentives and bonuses if performance exceeds pre-agreed targets; and
- Diversified sources of revenue, like endowments and *waqf* that offer greater flexibility and empowerment on spending.

For the Ministry

- Better alignment of national and institutional priorities via performance contracts;
- More funding based on students and performance rather than direct block grant for institutions;
- More involvement of industry and community in supporting the planned expansion and enhancement of the higher education system; and
- Greater overall sustainability enables the Ministry to prioritise its funding for important agendas such as support for low-income students.

Initiative implementation roadmap

The strategies and initiatives within this Shift have been carefully sequenced across three waves to avoid overtaxing the system, and to ensure that each successive wave builds on the foundations laid previously. The planning, execution and monitoring of the implementation process will be conducted according to the proposed roadmap shown in the following Exhibit 5-8.

EXHIBIT 5-8

	Wave 1 (2015)	Wave 2 (2016-2020)	Wave 3 (2021-2025)
A Strategy A Improving the funding formulae for public HLIs	<ul style="list-style-type: none"> Standardise financial reporting for all HLIs and codify recommended practices and new standards; and Develop new funding formulae for public universities in consultation with other agencies and HLIs. 	<ul style="list-style-type: none"> Introduce performance contracts for public universities with clear KPIs, and move from block grants to performance-based funding and per student funding; and Implement new bidding approach for specific programmes, open to both public universities and private HLIs. 	<ul style="list-style-type: none"> Complete transition to multi-year performance contracts for all public universities; and Review readiness levels and implementation of performance contracts in other public HLIs (such as polytechnics).
B Strategy B Enhancing the student loan system	<ul style="list-style-type: none"> Implement enhancements to improve PTPTN student loan repayment, including incentives as well as penalties for non-repayment. 	<ul style="list-style-type: none"> Launch income-contingent loans for students to link repayment with income levels after graduation; Link availability of loans with HLI quality standards and performance; Complete rebranding of PTPTN into Malaysia Education Fund, and launch enhanced education savings schemes. 	<ul style="list-style-type: none"> Achieve enhanced financial sustainability of Malaysia Education Fund (formerly PTPTN); and Review and explore alternative student financing models and instruments linked to fee structures to further improve affordability of higher education.
C Strategy C Diversifying revenues for HLIs	<ul style="list-style-type: none"> Codify and develop best practices for income generation and establishment of endowment funds or <i>waqf</i> for HLIs. 	<ul style="list-style-type: none"> Review and introduce incentives to encourage establishment of endowment funds or <i>waqf</i> by HLIs, such as matching grants and tax exemptions. 	<ul style="list-style-type: none"> Achieve diversified revenue model across higher education system for both public and private HLIs.
D Strategy D Optimising costs in the higher education system	<ul style="list-style-type: none"> Codify and develop best practices for improving productivity and efficiency in HLIs. 	<ul style="list-style-type: none"> Benchmark productivity and efficiency measures across HLIs to identify improvement opportunities and best practices on an ongoing basis. 	<ul style="list-style-type: none"> Achieve high productivity levels in Malaysian higher education across private and public HLIs (delivering graduates for higher quality at lower costs per student).

Conclusion

The Ministry aims to establish a sustainable financing system for Malaysia's higher education that is focused on outcomes and performance, and where all stakeholders in the public, private and social sectors contribute.

This Shift is critical as Malaysia will need to deliver quality higher education to almost twice as many students over the next decade at a time of rising costs and budgetary constraints. To do so, the Ministry will link government funding to performance, reform existing student financing mechanisms and encourage HLIs to diversify funding sources. Only by ensuring financial sustainability and continuing to invest in its higher education system can Malaysia ensure steady increases in enrolment and a quality of education that ranks amongst the best worldwide.

Tracking measures

The Ministry will track the progress and impact of this Shift against a set of outcome-based measures. These measures are not intended to be exhaustive and may evolve over time. Targets will also be set for each measure on an annual basis

- Percentage of public university expenditure via **performance or outcome based** funding (including per student funding);
- Percentage of public universities with **performance contracts** with the Ministry of Education;
- **Repayment rates** on PTPTN loan portfolio;
- Percentage of PTPTN repayment which are **income-contingent**;
- Percentage of public university **expenditure from income generation** (including endowment fundraising targets); and
- **Improved student outcomes** within the existing higher education system budget and public HLI cost structure.

Shift

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6



Empowered Governance

Governance encompasses the structures, relationships, and processes through which, at both national and institutional levels, policies for tertiary education are developed, implemented and reviewed. This chapter focuses on the ways in which higher learning institutions (HLIs) will be empowered to chart their own journey towards becoming efficient, unique, and high-quality institutions. The chapter also discusses how empowered governance is a balance between the autonomy to determine HLIs' own courses of action and the accountability to govern themselves transparently, while serving the interests of the country.

This chapter sets out how the Ministry of Education (the Ministry), in consultation with HLIs and stakeholders, will focus on empowering institutions and strengthening the governance of institutions in the Malaysian higher education system. The focus is on ensuring clarity of roles and responsibilities among different stakeholders, as well as redefining the governance structure and decision rights of institutions.

Why it matters

The Ministry recognises that greater empowerment and institutional autonomy are required for the future success of HLIs.

Good governance is essential for the effective and efficient functioning of any organisation and for building great institutions. The topic of governance and institutional autonomy was also frequently raised throughout the stakeholder consultation process for the development of the Malaysia Education Blueprint 2015-2025 (Higher Education) or MEB (HE).

Malaysian HLIs have less autonomy, compared to peers

Compared with other Asian countries, decision rights in Malaysian public universities¹ are more centralised in the Government (as shown in Exhibit 6-1). For example, in administration and governance, the Minister appoints key leaders, subject to consultation by committees. In funding and financial management, the public university's budget is approved by a committee within the Ministry of Finance. Additionally, many procurement and tender decisions adhere to guidelines of the Ministry of Finance. Intake plans and the admissions system are centrally managed by the Student Admission Management Division (SAMD), and academic programmes and curriculum require the approval of both the Ministry's Academic Division and the Malaysian Qualifications Agency (MQA). In human resource (HR) management, public universities need to abide by the circulars issued by the Public Service Department (PSD) regarding the availability of open positions and the salary schemes of staff.

In polytechnics and community colleges, control over most administrative, funding, academic, and HR decisions belongs to the Department of Polytechnic Education and Department of Community College

Education within the framework set by various central agencies. Such control includes deciding overall strategy and policy, appointing and evaluating institution leaders and staff, managing budgets and income generation, setting tuition fees and admissions criteria, making admissions decisions, determining academic curriculum, and managing infrastructure.

In private HLIs², there is a smaller degree of governmental control. Many decision rights, such as charting strategies, appointing key leaders, funding, and staff compensation, belong to each private HLI and its corresponding company. There is, however, Ministry control in the form of permits and applications that govern areas such as changes in course fees, renewal of academic programmes, quality assurance, mechanisms, and amendments to the medium of instruction.

Greater autonomy is required for HLIs' future success

The current supervision burden by the Government can become a hindrance to achieving the strategic goals set by the MEB (HE). Furthermore with expansion in size, types of students, and modes of instructions, as well as increased global competition, HLIs have become increasingly complex to manage. Without the flexibility to make their own decisions, HLIs cannot take advantage of local knowledge to implement agile management of resources and to create efficient, responsive, and innovative organisations. This was also the premise for the GLC Transformation (GLCT) programme launched by the Government to transform Malaysian Government-linked companies (GLCs).

¹ Public universities in Malaysia currently comprise 20 institutions, among which are five Malaysian Research Universities (MRUs).

² Private HLIs currently comprise 514 private universities, university colleges, and colleges.

Decision rights and autonomy of public universities in different countries

■ Have autonomy
 ■ Have no autonomy
 ■ Have limited autonomy

Countries*	Selected dimensions of autonomy						
	Set academic structure/course content	Appoint and dismiss academic staff	Decide size of student enrolment	Borrow funds	Spend budgets to achieve objective	Decide level of tuition fees	Set staff salaries
High-income countries							
Hong Kong			1			2	
Japan	3		4			5	
Singapore			6				
Middle-income countries							
Indonesia	7	8				9	10
Thailand		11				12	
Malaysia	13	14				15	

* Peers institutions are variants of public universities: public universities for Hong Kong; National universities for Japan; NUS, NTU and SMU for Singapore; and autonomous universities for Indonesia and Thailand

<p>1 Only able to decide enrolment and tuition fees for self-funded programs</p> <p>2 Only able to decide enrolment and tuition fees for self-funded programs</p> <p>3 Universities need to consult MEXT when creating departments or faculties</p> <p>4 Changes in number need MEXT approval</p> <p>5 MEXT sets standard fees and allows national universities to increase fees up to 20% above standard</p>	<p>6 Universities are given flexibility to determine 10% of its intake using independent criteria with potential for greater autonomy later</p> <p>7 Can set academic programs as long as they meet minimum credits and mandatory subjects</p> <p>8 Only for staff financed by own funds</p> <p>9 Fees need parliamentary approval</p> <p>10 Only for staff financed by own funds</p> <p>11 Life-long employment</p>	<p>12 Tuition fees need government approval</p> <p>13 Needs approval from Academic Dept. and MOA</p> <p>14 Appointment based on open posts given by Public Service Dept.</p> <p>15 Tuition fees need Government approval, except for international graduate programs</p>
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SOURCE: Adapted from Raza (2010) "Higher Education Governance in East Asia"

Where we are

The Government has already undertaken steps to improve governance practices in HLIs, as well as to grant greater autonomy to public universities that are ready. Nonetheless, there are significant opportunities to further improve governance across HLIs on dimensions of decision rights, pace of devolution, capability building and accountability mechanisms.

Significant efforts made towards autonomy

All public universities are statutory bodies from the day they were established. However unlike many statutory bodies, public universities are often still bound by various government rulings and circulars. Over the last two decades, legislative changes have granted greater autonomy to some public universities. In 1996, the Government allowed for the establishment of private HLIs, thereby increasing the competitive pressure for public universities. Amendments to the Universities and University Colleges Act (UUCA) in 1996, 2009, and 2012 further empowered public universities by enabling them to embark on commercial activities and by transferring administrative power to universities by replacing University Councils with Boards of Directors. The amendments also added consultation processes to the Minister's leadership appointment decisions, gave more responsibility to the Board with regard to questions of student discipline, and increased the university Senate's decision-making power without requiring the Board's sign-off.

In 2012, the Code of University Good Governance (CUGG) and the University Good Governance Index (UGGI) were developed to evaluate readiness of public universities for increased autonomy. As of December 2014, 12 public universities have been given

more autonomy over governance, procurement processes, HR decisions, and course offering decisions. Examples of autonomy now practiced by these public universities include: greater flexibility to terminate courses with low take-up rates, to implement enrolment management, to implement a top-up staff promotion system if funds are self-generated, to increase the age limit of contract hires, and to apply for exemptions from the Ministry of Finance to relax procurement limits and tender procedures.

For polytechnics, several initiatives have been implemented as part of the Polytechnic Transformation Agenda³ to put in place the foundations for greater autonomy. These include creating three Premier Polytechnics⁴, implementing a polytechnic rating system to assess and compare quality across institutions, and introducing merit-based career progression for academic staff. Similarly, several improvement initiatives are also in progress for community colleges such as the creation of the community college rating system or *Sistem Penarafan Kolej Komuniti* (MySpeKK).

To build capability to handle increasing autonomy, efforts have also been made to create well-trained and capable leadership in Malaysia's public institutions. In 2008, for example, the Higher Education Leadership Academy or *Akademi Kepimpinan Pengajian Tinggi* (AKEPT) was created to offer continuous professional development (CPD) programmes to enhance leadership in public HLIs.

³ Abdul W.S.H, et al., (2010). *Transformational of Malaysian's Polytechnic into University College in 2015: Issues and Challenges for Malaysian Technical and Vocational Education*. Retrieved from http://fptk.upi.edu/tvet-conference/download/TVET%20Conference%20Proceedings/Papers_Theme4/28_Sahul_Hamed_Abd_Wahab.pdf

⁴ Ibid.



There is still room for improvement

In spite of these efforts, there is still room for improvement, particularly in the following areas:

- **Understanding of rights:** Many of the decision making rights that have been devolved to public universities are not well understood, and therefore not fully utilised. Various governmental units issue circulars, schemes, and directives that have been adopted by University Boards. Some decisions related to staff payment, hiring numbers, new courses, the requisition of goods and equipment, are legally within the powers of public universities, but are now limited by such circulars, schemes, and directives;
- **Pace of devolution:** Given the leadership capacity and capability that has been built up in public universities and polytechnics, there is an opportunity to devolve more decision making power to institutional leaders;
- **Capability building mechanisms:** Effective succession planning is not widespread across public universities, and there is currently no clear requirements on the skill sets required of Board members; and
- **Accountability mechanisms:** Limited monitoring and enforcement mechanisms for private HLIs have led to issues with the financial sustainability and quality of the sector. While there are many high-performing private HLIs that are critical to the success of Malaysia's higher education sector, there are also many subscale and poor performing HLIs that risk damaging the reputation of the industry.

Objectives

Given the existing status of governance in Malaysian HLIs, the Ministry aims to develop a portfolio of fully-autonomous and semi-autonomous HLIs based on readiness and capacity for decision-making. These HLIs will operate freely within the regulatory framework established by the Government with strong governance structures, clear decision rights, effective stakeholder management supported by the right internal capabilities and with appropriate controls in place.

Different institutions have different levels of readiness and capabilities to enable effective autonomy. Any shift to autonomy should be a gradual process and should be sequenced over time.



Principles

The strategies and initiatives to achieve empowered governance have been designed based on three interrelated principles:

- **Increased autonomy with greater accountability.** The factors that necessitate autonomy also make it necessary to establish accountability mechanisms (with appropriate controls) to ensure that HLIs are responsive to national interests, regional public interests, as well as the needs of different stakeholder groups;
- **Sequenced (stage-gated) devolution process.** Different HLIs have different levels of readiness and capabilities to enable effective autonomy. Any shift to autonomy should be a gradual process and should be sequenced over time; and
- **Four pillars of good governance.** Good governance shall address elements of structure, decision rights, stakeholder management, and capability building.



Strategies and initiatives

The Ministry has defined two strategies to achieve the objectives of this Shift. These two strategies, each with its own corresponding initiatives, will move the higher education system towards greater empowered governance.

Strategy A: Redefining stakeholder roles and decision rights.

The Ministry is refocusing its role to that of a policymaker and regulator. To that end, the Ministry will gradually devolve more and more decision making rights to public universities, as and when they are ready to take on these new responsibilities. This devolution will occur in three stages, and span across four key areas of administration and governance, funding and financial

management, admission, intake plans and curriculum, as well as human resource management.

Strategy B: Balancing HLI autonomy with accountability.

Greater institutional autonomy also requires greater accountability. In order to balance the increased autonomy provided to public universities, more robust accountability mechanisms will be introduced through new five-year (3+2) performance contracts and an enhanced quality assurance framework. The Ministry will also codify and disseminate best practices in HLI governance, including an evaluation framework on board and governance effectiveness for University Boards.



Image by Awang Muhamad Nasuha, Flickr CC 2.0

Initiative A1 Redefining the role of the Ministry in public HLIs

The relationship between the Government (usually through the Ministry) and public HLIs can be categorised into four archetypes: baseline funder, regulator and policymaker, overseer, and tight controller (Exhibit 6-2). These archetypes are linked to the various development stages of the institutions.

For public universities, the current role of the Ministry can be described as that of a tight controller. Historically, this was a valid approach, as public universities were still developing the capacity and capabilities to ensure effective governance. Given that this capacity and capability has been built, the role of the Ministry in the higher education system will shift to that of a regulator and policymaker. This feedback was frequently shared throughout the public and stakeholder consultation process during the development of this blueprint.

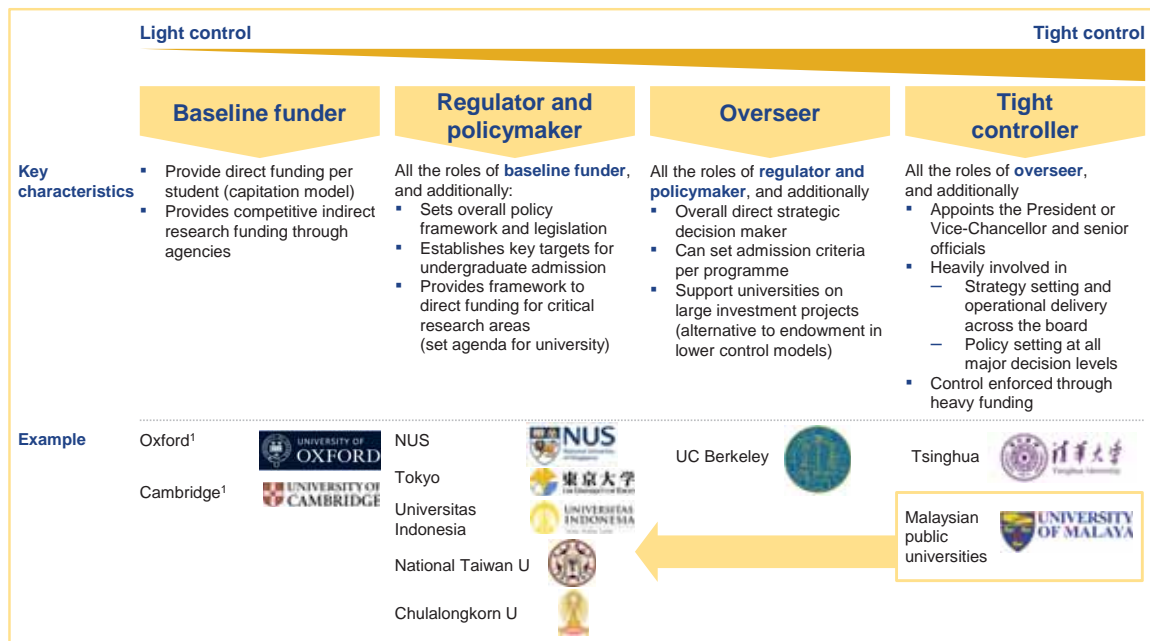
By playing the role of regulator and policymaker, the Ministry can balance the goals of setting the national agenda with institutional autonomy. This mirrors

the role of governments in several benchmark universities across Asia, including National University of Singapore, University of Tokyo, and National Taiwan University. The process of shifting the Ministry's role towards greater autonomy will be gradual to ensure that public universities have the capabilities to manage their new powers.

For polytechnics and community colleges, the current role of the Ministry is also that of a tight controller. Due to historical governance structures and the fact—that some of these institutions especially community colleges—are still maturing, a longer lead time will be needed to build up capabilities for self-governance compared to public universities. The Ministry will explore devolving greater decision rights to these institutions as and when they are ready, and they have been converted to statutory bodies.

EXHIBIT 6-2

Role of the Ministry in higher education



¹ Oxford and Cambridge are expected to supplement teaching funds with own fundraising

SOURCE: Interviews, university websites

Initiative A2

Revising governance structure and decision rights for public universities and private HLIs

To enable greater autonomy and accountability, the Ministry will revise four dimensions of governance structure (profile, roles, responsibilities, and accountability) and decision rights.

For public universities, the Ministry will make the following changes:

- **Profile:** Currently, the Board of Directors is fully local with selection criteria based on composition (fixed number of members from each representative group) but not on skills and unique requirements of each university. In the new requirements, the Board of Directors will benefit from greater diversity, in particular greater gender diversity and international members. Additionally, specifications on the skill set and commitment levels will be set for all members;
- **Roles and responsibilities:** The Ministry will provide the option for public universities to separate administrative/management roles and academic roles. Currently, the President or Vice-Chancellor (VC) is responsible for overall academic performance as well as administrative and management functions. However, as HLIs evolve towards greater autonomy, they may want to have two separate positions: (a) one focused on administrative and management functions, such as strategic planning, representing the university, and fundraising (the President or VC) and (b) one in charge of academic and research functions (the Provost or Deputy VC). This is common practice in many universities in the US, Hong Kong, and Japan, as well as increasingly common in the UK. Further, in order to enable effective management of HLIs' revenue and finances, the Ministry will continue to encourage HLIs to professionalise their management team, especially for administrative and financial control roles. As universities further diversify their revenues, they will be encouraged to continue improving financial management capabilities such as appointing a Chief Financial Officer (CFO). The Ministry will also encourage HLIs to establish independent governance structures for their endowment funds, separate from day-to-day management of the university.
- **Accountability:** The Minister will maintain the authority to appoint the Chairman of the Board, VCs or Presidents, and Deputy Vice-Chancellors (DVCs) or Vice-Presidents that a Nominating Committee proposes. The Minister will also approve members of the University Board proposed by the Chairman of the Board. The University Board has complete responsibility on the governing and welfare of the university and all interests pertaining to students, the academic community and alumni. The Board has a fiduciary responsibility and must provide active oversight over assets, finances and overall strategy of the university to ensure the sustainability and durability of the institution. The VC will be directly accountable to the University Board and Chairman of the Board, and will be responsible for the overall strategy and day-to-day management of

the institution. The VC has the authority to identify and appoint other members of his or her own leadership team. All appointments will be carried out via a transparent consultation process. Going forward, the Ministry will continue to review and evaluate the readiness of public university Boards to be granted greater decision rights on appointments; and

- **Decision rights:** Various decisions rights in administration, funding, academics and HR management will be moved from the Ministry to the Board, the Senate, and the respective departments, as illustrated in Exhibit 6-3. Decisions pertaining to the national agenda, however, will remain with the Ministry.

To ensure that public university leadership teams are adequately prepared to take on these new roles, the proposed changes in governance structure and decision rights of public universities will occur in stages, as detailed in Exhibit 6-4. As an indication of readiness for each stage, public universities will need to demonstrate a track record of academic excellence and good governance. For example, good MOA audits results and strong performance in all dimensions on the UGGI. These stages are:

- **Building foundations** by granting significant academic autonomy, as well as limited autonomy in funding, HR, and procurement. The autonomy granted encompasses the freedom available when HLIs are "deemed ready for autonomy" through UGGI self-evaluation and audit. This phase also builds the foundation for governance autonomy by strengthening Board composition;
- **Accelerating towards autonomy** by finalising academic autonomy, significantly improving autonomy in funding, HR, and procurement, and further implementing supporting governance autonomy; and
- **Achieving full autonomy** as mandated by the regulatory framework, by achieving the end-state autonomy in all areas: governance, funding and procurement, HR, and academics. This phase includes giving the Board the authority to appoint the most senior leadership of the public university.

There are some areas that the Government, in its role as the regulator and policymaker, will always control. These areas include setting the overall policy framework, setting ground rules on student intake number targets, setting the framework for direct funding for critical research areas, and setting caps on tuition fees for undergraduate studies.

For private HLIs, the Ministry will move towards greater self-regulation and co-regulation. Self-regulation in application and permit processing, such as in the areas of teaching permits, and limited ability to set fees, will be offered to private HLIs with high governance capabilities, as evidenced by good performance on the effectiveness assessment framework for HLI governance,

Transfer of decision rights from Government to public universities (10 year end state)

■ Government
■ University leadership (e.g., president, board)
■ College/department

Key decisions at Malaysian public universities		From...	To...	
Administration and governance	Approve university strategy (vision, mission, focus)	■ ■	■ ■	Board or department approves university strategy and focus areas
	Approve university constitutions, statutes, and rules	■ ■	■ ■	Ministry continues to approve constitution but approval of statutes and rules should be limited to the university
	Appoint leaders and set terms of office (VC, DVC)	■ ■	■ ■	
	Evaluate performance of leaders (e.g., VC)	■ ■	■ ■	
	Change organisation (e.g., establish, merge depts)	■ ■	■ ■	
	Monitoring of HLI quality and reports	■ ■	■ ■	Minister appoints Chairman, approves Board members, and appoints VC and DVC (as nominated by Nomination Committee). VC directly accountable to Board and Chairman.
Funding and financial management	Approve university budget	■ ■	■ ■	
	Manage endowment and income-generating assets	■ ■	■ ■	Monitoring through performance contract
	Set tuition fees	■ ■	■ ■	
	Decide allocation of funds and research grants	■ ■	■ ■	Treasury and Finance Division approve budget from the Government. Board and university departments approve and manage funding from other sources.
	Management of allocated grants	■ ■	■ ■	
	Infrastructure development and management	■ ■	■ ■	
	Approve procurement decisions (facilities, services)	■ ■	■ ■	Infrastructure management and purchasing decision approvals should be made at the University or College/department levels
Admission, intake plans, curriculum	Determine number and profile of students	■ ■	■ ■	
	Set student admissions criteria	■ ■	■ ■	
	Make admission decision	■ ■	■ ■	Programme and curriculum still needs to comply with MQA but no need for approval from Academic Division at the Ministry
	Approve academic programme and curriculum	■ ■	■ ■	
	Student discipline and suspension	■ ■	■ ■	Student discipline and suspension issues should be limited to the University
Human Resource management	Appointment and dismissal of staff	■ ■	■ ■	
	Evaluation/promotion of staff; set pay scales/incentive	■ ■	■ ■	
	Set pay schemes (salary designation)	■ ■	■ ■	Management of staff should be separate from Public Service Department control to allow flexibility in attracting best resources and managing performance
	Design staff development policies/programmes	■ ■	■ ■	

and on the institution's track record in student outcomes. Co-regulation between HLIs and the Government will be offered to private HLIs with moderate or emerging governance capabilities.

To accommodate these changes, the Ministry will lead an effort to review existing laws and circulars related to the higher education system, in consultation with relevant stakeholders. This review is intended to (i) support and facilitate the new governance approach and decision rights, (ii) introduce the new framework for performance contracts and new requirements on adoption of assessment framework for HLI governance, (iii) enable the harmonisation of public and private HLIs, and (iv) streamline and avoid unnecessary overlaps in regulations and statutes. In addition, the Ministry will work with other agencies to modify guidelines and circulars for funding, academic, and HR management to ensure that they do not prevent HLIs from exercising the autonomy granted to them by the law. In the long run, the Government will explore an effort to establish an integrated Higher Education Act applicable to all types of institutions including private and public HLIs.

Relative to public universities, the Ministry maintains a higher degree of control over polytechnics and community colleges in steering them to support national objectives. For polytechnics, the Ministry is establishing a new governance structure to transform the 33 polytechnics into a multi-campus statutory body: Politeknik Malaysia. Currently, polytechnics are governmental departments; each polytechnic is headed by a Director. Under the new governance structure, each polytechnic becomes a branch campus of the statutory body. For community colleges, which have been established since 2001, the Ministry will continue to focus on growth, expansion, good governance and stabilisation, building on the Community Colleges Development Pathway (2000-2015). The Ministry will continue to evaluate and review the readiness of polytechnics and community colleges to determine when and what level of decision rights to shift to the institutions, for example around determining strategy, appointing leadership roles, approving internal budget allocation, managing procurement, investing in infrastructure, as well as making admissions and internal human resource decisions.



Three stages of implementation for changes in governance structure and decision rights

■ Freedom currently possible when HLI is **deemed ready for autonomy** through assessment based on UGGI

	Build Foundations	Accelerate	Achieve
Key actions	<p>Significant academic autonomy</p> <ul style="list-style-type: none"> Give Senate power to approve new programmes without government funding Give Board power to approve internal allocation for creating faculty/centre/school/programme Give HLIs power to terminate courses with low response Give HLIs power to implement enrolment management Pilot admissions selection rights for selected programmes Ministry's approval not required for all programmes <p>Limited HR, funding and procurement autonomy</p> <ul style="list-style-type: none"> Increase autonomy in raising funds (for example, endowment and <i>waqf</i>) Give HLIs power to implement top-up staff promotion system if funds are self-generated Grant exemption from <5% stock ownership Increase age limit for contract hiring Allow exemptions from Ministry of Finance (MoF) for procurement limits and tender procedures <p>Foundation on governance autonomy</p> <ul style="list-style-type: none"> Change board composition based on skill sets and not limited to Malaysians 	<p>Complete academic autonomy</p> <ul style="list-style-type: none"> Shift program requirements, admissions decision and program approval to HLIs <p>Significant HR, funding and procurement autonomy</p> <ul style="list-style-type: none"> Implement new funding formula (for example, funding linked to number of students and performance metrics) alongside new compliance mechanism Improve top-up and incentives scheme and performance based tenure track <p>Increased governance autonomy</p> <ul style="list-style-type: none"> Empower Board to evaluate leadership (for example, VC or President) performance and approve HLI strategy Adopt effectiveness assessment framework for HLI governance 	<p>Complete HR, funding and procurement autonomy</p> <ul style="list-style-type: none"> Implement five year cycle budget review with corresponding performance contract Give ability to opt out of civil service human resources scheme Give HLIs full decision on procurement <p>Autonomy in appointment rights of most senior leadership</p> <ul style="list-style-type: none"> Provide greater decision rights on appointments to Boards (based on readiness) Implement separation of academic and administrative roles (if applicable)
Example criteria	<ul style="list-style-type: none"> 80% score on institutional governance, finance, academic governance and human resource dimensions of the UGGI 	<ul style="list-style-type: none"> >90% score on UGGI dimension across the board, with Finance section updated to reflect new funding formula 	<ul style="list-style-type: none"> Autonomy can be revoked if HLIs cannot maintain excellence and compliance with performance contract

Initiative B1

Defining new performance contracts and strengthening the quality assurance framework

In exchange for the greater autonomy that HLIs enjoy, there needs to be accountability to ensure that performance expectations are met. As illustrated by Exhibit 6-5, two important aspects of accountability are the quality assurance framework and performance contracts. To this end, the Ministry will take the following actions:

- **Strengthen the adoption of Rating System for Malaysian Higher Education Institutions or *Sistem Penarafan Institut Pengajian Tinggi Malaysia (SETARA)*⁵, the Malaysian Quality Evaluation System for Private Colleges (*MyQUEST*)⁶, Polytechnic Rating System or *Sistem Penarafan Politeknik (PolyRate)* and *MySpeKK*.**

The Ministry will continue to work with MQA to simplify these rating processes to make it easier for public and private HLIs to participate, and to ensure that the metrics being assessed are robust and relevant. The Ministry will also mandate participation in the revised SETARA or MyQUEST for private HLIs to qualify for government funding (for example, PTPTN loans, research grants)

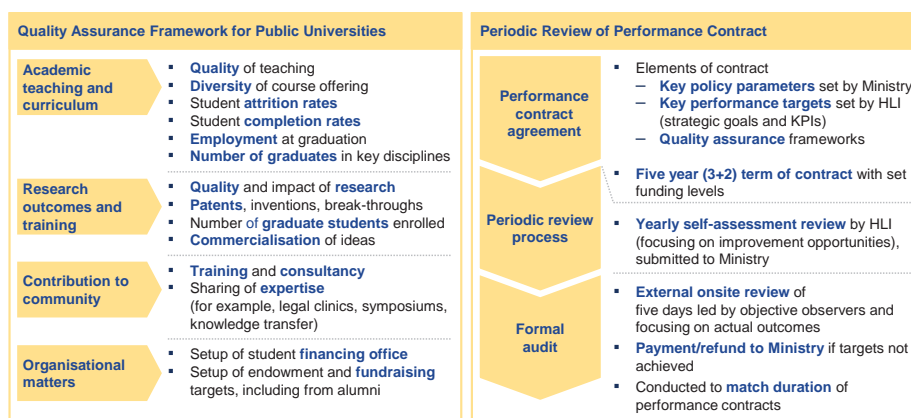
and other benefits (for example, tax exemption⁷, reduced Ministry supervision⁸, and longer institutional licenses). The degree of access by private HLIs of these benefits will be based on their quality standards, with penalties for underperforming private HLIs; and

- **Create comprehensive performance contracts between the Ministry and public universities with clear key performance indicators (KPI) and targets.**

As described in the previous chapter on Shift 5: Financial Sustainability, the Ministry will be introducing multi-year performance contracts with public HLIs, starting with selected public universities. KPIs and targets will be set for each institution based on its profile (for example, MRUs will have targets related to research productivity), with substantial funding at risk if the institution does not meet these targets. To enforce the five-year (3+2) performance contracts, the Ministry will require self-assessments to be submitted annually, with interim formal audit cycles in year three.

EXHIBIT 6-5

Performance contracts for greater autonomy and accountability for public higher learning institutions which are ready



⁵ Malaysian Qualifications Agency (2011). *Setara 11' - 2011 Rating System for Malaysian Higher Education Institutions*. Retrieved from <http://www.cybermed.edu.my/quamec/download/SETARA2011.pdf>

⁶ Ministry of Education, Malaysia (2014). *Quality Evaluation System (MyQUEST) for Private Colleges*. Retrieved from <http://ppt.moe.gov.my/PENGUMUMAN/MyQUESTSlide.pdf>

⁷ An example is the 40% international students merit tax exemption.

⁸ Examples of reduced supervision include invitation to self-accredit, exemption from building auditing requirement when accrediting programs, and exemption from teaching permit requirement.

Initiative B2

Developing best practice frameworks for HLI governance

To further enhance accountability of HLIs, the Ministry will codify and share best practices in HLI governance. The Ministry will also create a comprehensive framework for assessing the effectiveness of institutional governance, which will include an evaluation for the Board of Directors. These resources will be based on the Malaysian Code on Corporate Governance⁹ or the Government-Linked Company Transformation Programme Green Book¹⁰ on effective board governance. Adoption and reporting of the assessment framework will be mandatory for all public universities. Private HLIs will be given the option to adopt this assessment framework to qualify for self-regulation. The Ministry encourages all HLIs to undertake regular, transparent, independent reviews and audits for their board and governance effectiveness.

⁹ Securities Commission Malaysia (2012), *Malaysian Code on Corporate Governance*. Retrieved from http://www.pwc.com/en_MY/my/assets/publications/pwcalert103-cg.pdf.

¹⁰ Putrajaya Committee on GLC High Performance (PCG) (2006), *The Green Book: Enhancing Board Effectiveness*. Retrieved from http://www.pcg.gov.my/PDF/GREENBOOK_BINDER.pdf.



Box 6-1

Current definition and categorisation of HLIs

Currently, statutory acts governing the higher education system in Malaysia define HLIs as either a public institution or a private institution. However, this is not representative of actual practice. Currently there are several distinct operating models for HLIs:

- National universities which are typically funded by the federal government and established through an Act of Parliament such as UM, USM, and UPM. These are categorised as public institutions, and comprise 20 universities established as statutory bodies;
- Federal and state funded institutions founded under the Private Higher Educational Institutions Act 1996 such as UniKL, UIM, UNISEL, KUISAS, KUIM, and KUIS. These are currently categorised as private institutions;
- Private institutions established under the Private Higher Educational Institutions Act 1996, typically operated on a for-profit basis such as Taylor's University and HELP University. These are categorised as private institutions; and
- Private institutions linked to a foundation, typically operated on a not-for-profit basis such as UTP, UTAR, Wawasan University, Sunway

University, and INCEIF. These are also currently categorised as private institutions.

Future definition and categorisation of HLIs

There are currently four operating models for HLIs in Malaysia. The Ministry acknowledges that each of these four categories of HLIs make valuable and critical contributions towards the overall higher education system and the nation. Going forward, this categorisation will be formalised and recognised by the Ministry. There will be four categories of HLIs:

- **National institutions;**
- **State institutions;**
- **Private institutions; and**
- **Foundation-based institutions.**

This will facilitate better governance, allocation of decision rights and tailored oversight of each HLI by the Ministry, as these categories of HLIs operate under different practical constraints, challenges and objectives.

Initiative implementation roadmap

The strategies and initiatives within this Shift have been carefully sequenced across three waves to avoid overtaxing the system, and to ensure that each successive wave builds on the foundations laid previously. The planning, execution and monitoring of the implementation process will be conducted according to the proposed roadmap shown in the following Exhibit 6-6.

EXHIBIT 6-6

	Wave 1 (2015)	Wave 2 (2016-2020)	Wave 3 (2021-2025)
Strategy A Redefining roles and decision rights	<ul style="list-style-type: none"> Implement "Build Foundations" in all public universities, focusing on enhancing governance, board composition, and increasing academic autonomy; Create guidelines to expedite self-accreditation process for public HLIs with strong quality performance; and Define clear guidelines for self-regulation and co-regulation of private HLIs in consultation with stakeholders 	<ul style="list-style-type: none"> Complete "Accelerate" stage in at least 80% of all public universities, focusing on increasing governance, human resource, funding and procurement autonomy; Implement self-regulation and co-regulation in pilot private HLIs; and Review existing regulations and circulates to support and facilitate the new governance approach, new performance contract framework, and for harmonisation across public universities and private HLIs Review and explore establishment of an integrated Higher Education Act applicable to all types of HLIs, both public and private 	<ul style="list-style-type: none"> Complete "Accelerate" and "Achieve" stages in all public universities – with institutions having full set of governance, funding, HR and procurement rights; and Expand self-regulation and co-regulation in all private HLIs.
Strategy B Balancing autonomy with accountability	<ul style="list-style-type: none"> Codify and share best practices in HLI performance management and create guidelines for KPIs and performance contracts; Review and simplify quality assurance and institutional ratings processes by MQA; Codify and share best practices on HLI governance and effectiveness; and Develop Board effectiveness assessment framework. 	<ul style="list-style-type: none"> Introduce comprehensive 5 year (3+2) performance contracts for public universities; Make adoption of Board effectiveness framework mandatory for public universities, and encourage adoption for private universities; and Mandate adoption of institutional rating systems such as SETARA and MyQUEST for private HLIs (and link to funding, e.g. PTPN student loans) 	<ul style="list-style-type: none"> Complete transition to five-year (3+2) performance contracts for all public universities.

Conclusion

The Ministry aims to develop a portfolio of fully-autonomous and semi-autonomous HLIs based on their readiness and capacity for decision-making. Such empowered governance is essential to ensure Malaysian HLIs are able to chart their own destiny based on their unique contexts and strengths, in pursuit of the aspirations set forth in the Blueprint.

As the Ministry makes a critical shift in its role towards being primarily a regulator and policymaker, it is committed to ensuring clarity of roles and responsibilities amongst stakeholders in the higher education system, and to redefining the decision rights and governance structure of HLIs. Ultimately, HLIs must understand that empowerment comes hand-in-hand with accountability—embracing and adopting both principles will be the key to success.

Tracking measures

The Ministry will track the progress and impact of this Shift against a set of outcome-based measures. These measures are not intended to be exhaustive and may evolve over time. Targets will also be set for each measure on an annual basis.

- Percentage of public universities in each stage of devolution - **“Build Foundation”, “Accelerate”, and “Achieve”**;
- Percentage of HLIs that have conducted board and governance **effectiveness assessment**;
- Percentage of HLIs that have complied with the new financial and governance **reporting framework**;
- Percentage of HLIs that meet **SETARA, MyQUEST, PolyRate and MySpeKK** minimum standards; and
- Percentage of private HLIs **granted self-regulation or co-regulation**.

Shift





Innovation Ecosystem

Malaysia aspires to make innovation a major driver of national economic growth. As one of the leaders in the national innovation landscape, the Ministry of Education (the Ministry) plays a critical role in facilitating the development of innovation ecosystems. To thrive, these ecosystems will need to bring together the quadruple helix of academia, industry, government and community in collaborative partnerships that accelerate the commercialisation of ideas.

This chapter outlines the principles, strategies, and initiatives the Ministry is undertaking to achieve this outcome. This includes focusing on a few strategic areas that are of national importance and revising the Ministry's funding mechanisms to catalyse greater investment and involvement from the private sector. The Ministry will also work collaboratively with other agencies and higher learning institutions (HLIs) to create a supportive environment for both university-driven and demand-driven research.

Why it matters

Malaysia's transformation from a middle- to high-income advanced nation requires a shift towards higher value-add and knowledge intensive activities. Innovation will be key to this transformation.

Innovation as a growth engine

Between 1970 and 1995, more than half of the total growth in output in the developed world was driven by innovation¹. As economies become more knowledge-intensive, that proportion is likely to grow. The experiences of some countries shows how innovation plays a key role in driving economic growth and creating value as shown in Exhibit 7-1. An innovation ecosystem is key to facilitating activities and research culture. Innovation ecosystems, as shown in Exhibit 7-2, enable academic and research institutions, small- and medium-sized enterprises (SMEs), large corporations, and investors to pool resources and

collaborate on incubating, developing, and marketing new ideas to fuel growth in areas of national priority. Harnessing this quadruple helix of academia, industry, government, and community will require new ways of working in a collaborative manner.

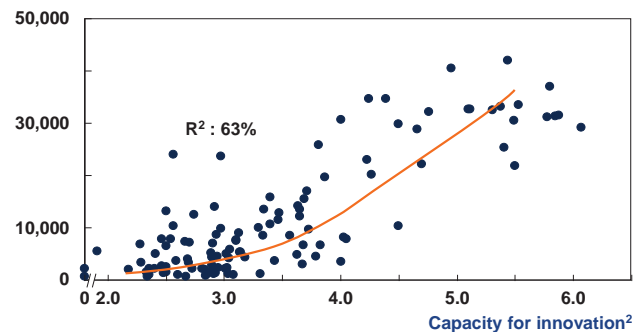
The Economic Transformation Programme (ETP)

Developing effective innovation ecosystems will be key towards achieving the ETP, which was launched in 2010. The ETP identifies 12 National Key Economic Areas (NKEAs) which will need to move up the value-chain in order to accelerate the growth of the Malaysian economy and drive Malaysia towards high-income nation status. Robust research, development and commercialisation (R,D&C) activities in these sectors are required to give Malaysia the necessary edge to compete in the global economy.

EXHIBIT 7-1

Correlation between capacity for innovation and GNI per capita

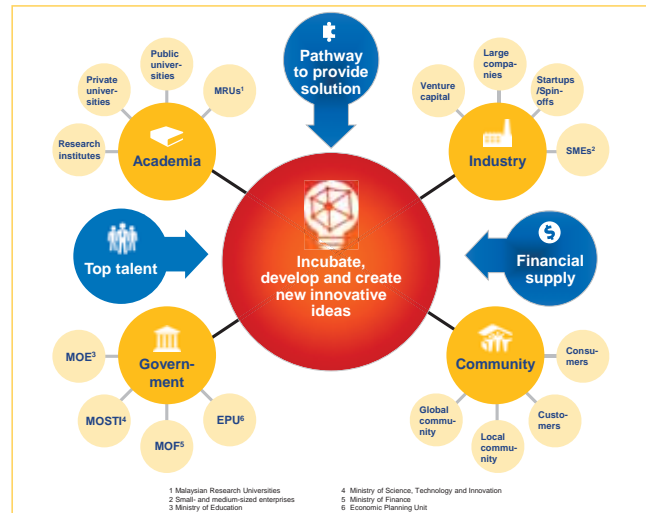
Innovation and GNI per capita are correlated
GNI per capita¹, USD



¹ For 113 countries around the world, for the 12 month period up to Oct 2009
² World Economic Forum (WEF) definition: Proportion of licensed versus original technology
SOURCE: Organisation of Economic Co-operation and Development (OECD) statistics; WEF Executive Opinion Survey 2008/2009

EXHIBIT 7-2

Visual representation of an innovation ecosystem



¹ Simmie, J., Sennett, J., Wood, P., & Hart, D (2002). *Innovation in Europe, a Tale of Networks, Knowledge and Trade in Five Cities, Regional Studies*, Vol. 36, pp. 47-64, Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/00343400120099852#.VQCTbXyUd1Y>

Where we are

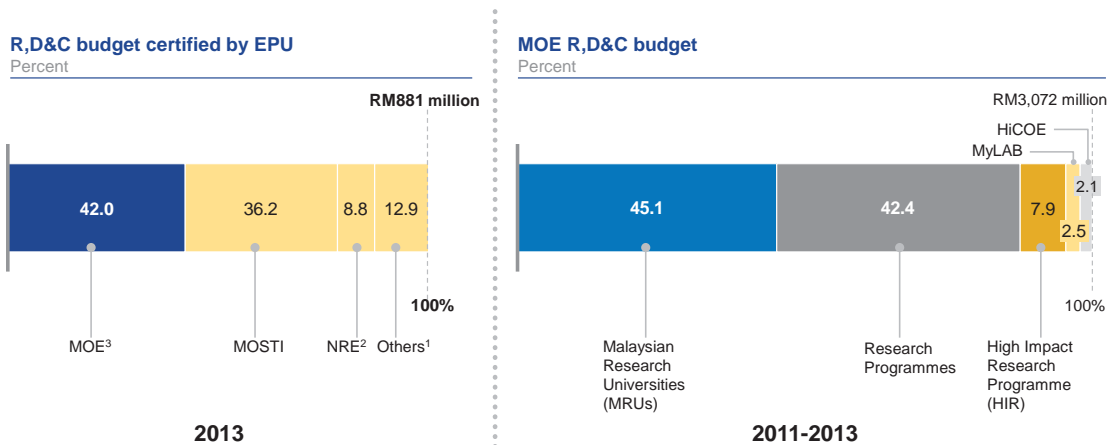
In Malaysia, there are 14 ministries and agencies involved in the innovation landscape. The major funding agencies in Malaysia include the Ministry of Education (the Ministry) and the Ministry of Science, Technology and Innovation (MOSTI). Under MOSTI, the National Innovation Council (NIC), the National Science and Research Council (NSRC) and the *Agensi Inovasi Malaysia* (AIM) play strategic planning roles to fund and drive R,D&C activities. Additionally, the *Jawatankuasa Pelaburan Dana Awam* (JKPDA) was established in 2013 to coordinate large projects & oversee public spending on R,D&C.

The Ministry is the largest funding agency in the broader innovation landscape, with about RM3.07 billion invested by the Ministry from 2011-14, as shown in Exhibit 7-3. The Ministry's funding covers the entire value chain from pre-R&D, R&D, to pre-commercialisation. The Ministry's research funding is divided into the following categories:

- **Malaysian Research Universities (MRUs):** Based on the Malaysia Research Assessment Instrument (MyRA) accreditation, these universities are recognised by the Ministry as leading research and educational hubs;²

EXHIBIT 7-3

Breakdown of research, development and commercialisation (R,D&C) funding



¹ Ministry of Plantation Industries & Commodities (MPIC); Ministry of Agriculture & Agro-based Industry (MoA); Ministry of Health; Ministry of Finance (MoF); Ministry of Communication & Multimedia; Ministry of Human Resource

² Natural Resources & Environment

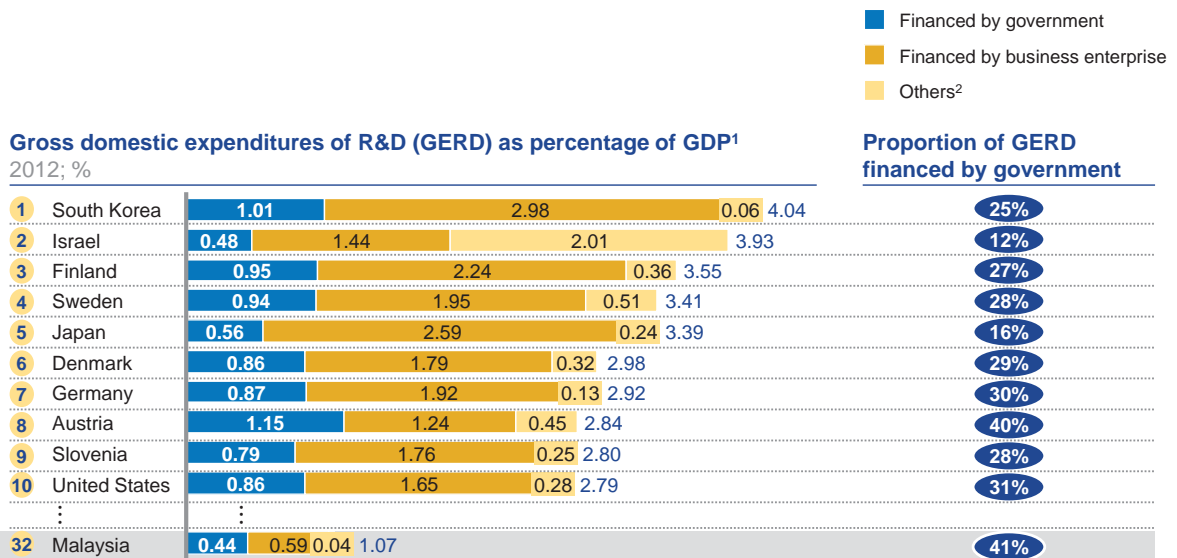
³ Includes previous Ministry of Higher Education budget

² Malaysia Research Assessment Instrument is a self-assessment instrument for evaluating R&D achievement towards recognition as a research university. This assessment is based on eight criteria: (i) Quantity and Quality of Researchers; (ii) Quantity and Quality of Research; (iii) Quantity of Postgraduates; (iv) Quality of Postgraduates; (v) Innovation; (vi) Professional Services and Gifts; (vii) Networking and Linkages; and (viii) Supporting Facility).

- **Research programmes:** The Ministry designed 10 research programmes spanning fundamental research to early-stage commercialisation to cater to the needs of different groups of researchers and optimise grant funding;
- **High Impact Research Programme:** The Ministry created this initiative to make *Universiti Malaya* (UM) one of the world's best research universities;
- **Higher Institution Centres of Excellence (HICoEs):** The Ministry established HICoEs for the purpose of ensuring HLIs stay competitive in specialised fields of research; and
- **Malaysia Laboratories for Academia-Business Collaboration (MyLAB):** MyLAB focuses on four sectors—nanotechnology, biotechnology, automotive and aerospace—which are driven by collaboration between researchers in HLIs and industry players.

EXHIBIT 7-4

Comparison of gross domestic expenditure on R&D by funding sources



¹ Data used for South Korea and Japan is from 2011, due to data availability. Switzerland is not in the list since it has GERD 2.87% of GDP, but no recent data available

² "Others" mainly refers to funding sources from abroad

SOURCE: United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics

Box 7-1

Whose responsibility is it to commercialise?

Commercialisation refers to the process of introducing an income-generating solution or product into the market. These solutions can be:

- **University-driven** or initiated by academic researchers to meet a need in society or industry at a local or global level. This original research could lead to the generation of intellectual property rights, the creation of spin-off companies due to technology licensing and the development of skilled, research talent that can fuel the ongoing growth of the country. While university-driven findings may take longer to reach the market, it plays a critical role in providing Malaysia with a competitive edge in the knowledge economy. Besides product-based solutions, academia can also provide solutions to global and industrial problems via services such as training, consultancy and contract research; and

- **Demand-driven** or initiated by industry to address the specific needs of the sector or community. Accordingly, the solutions developed typically have a faster time to market. Researchers working in demand-driven contexts stand to produce more relevant-to-industry research due to their better understanding of what industry needs.

Innovation ecosystems require the close interplay of all four parties of the quadruple helix – academia, government, industry, and community. Commercialisation of ideas into services and products is the responsibility of all parties. The Ministry accordingly tracks the revenue generated from HLI activities as solution providers as a key metric of success.



A strong faculty is crucial for the transformation of Malaysia's higher education system. The Ministry is providing scholarship programmes for young researchers with MyBrain15 (MyPhD, MyMaster), *Skim Latihan Akademik Bumiputera* (SLAB), and *Skim Latihan Akademik IPTA* (SLAI). For example, the MyBrain15 programme, aims to produce 18,000 PhD holders by 2015. A number of research universities have adopted new hiring strategies to entice leading researchers to assume positions in their organizations. Additionally, attractive financial incentives have been accorded to faculty members who succeeded in publishing their articles in International Scientific Indexing (ISI) or Scopus-indexed journals.

To increase collaboration between industry and academia, several initiatives have also been introduced. The establishment of the

Industry Centre of Excellence (ICoE) is the key to strengthen existing collaborations and to promote future ties with more local and international entities. The Knowledge Transfer Programme (KTP) has also started to promote the transfer of knowledge through a project-based approach.

While Malaysia has invested significantly in R,D&C activities, gross domestic expenditures on R&D (GERD) represented just 1.1% of GDP, ranking 32nd in the world (shown in Exhibit 7-4)³. Approximately 40% of Malaysia's GERD comes from the Government, which is relatively higher when compared with other countries. In terms of contribution from business enterprises, Malaysia lags other nations and needs to stimulate more R&D investment from the private sector.

EXHIBIT 7-5

Talent pool of world class researchers

Number of researchers listed in Thomson Highly Cited Researchers

2013, Top 3000 researchers

1	USA	1,703
2	UK	304
3	Germany	164
4	China	150
5	Japan	98
6	Canada	88
7	France	82
8	Netherlands	77
9	Australia	68
10	Switzerland	67
:	:	:
19	Singapore	14
:	:	:
36	Malaysia ¹	4

Number of PhD graduates

Most recent year

57,405
18,750
26,039
48,987
15,872
5,416
11,941
3,736
5,825
3,800
:
1,400
:
2,634

Number of PhD graduate per million population

Most recent year

178
295
315
35
125
152
185
222
247
466
:
254
:
87

1 Data in 2014

SOURCE: Thomson Reuters, Science and Engineering Indicators 2014

³ UNESCO Institute for Statistics (2015). *The First Stop for Education Data*. Retrieved from <http://www.uis.unesco.org/>.

Having the best talent is another key factor for establishing an excellent innovation ecosystem. The number of PhD students in public universities alone has increased 236% since 2007, from approximately 9,000 students to 30,250 students in 2014. Malaysia has also succeeded in attracting PhD students from overseas, and foreign students today comprise 40%-50% of all PhD students in Malaysian public and private universities.

However, the talent pool of PhD students and world-class researchers is still smaller than that of many countries, as shown in

Exhibit 7-5. Expanding the number of PhD candidates and graduates will require addressing challenges in recruiting, hiring, and retaining researchers due to internal bureaucracy and slow processes, and improving the quality of postdoctoral and postgraduate programmes.

The number of published articles has grown 20% annually from 2009-13. Globally, Malaysia ranked 23rd in this category in 2013, up from 34th in 2009. When compared with countries where researchers produced more than 10,000 publications in 2013, Malaysia has the second highest growth rate globally. Another

EXHIBIT 7-6

Malaysia ranked 28th in the world on number of patents

	Number of patents (filed under the PCT ¹), 2011	Patents per million population	Growth %, 2007-2011, CAGR	Patent per 1000 publications %, 2011
1 United States	48,213	149	-0.9	83
2 Japan	41,721	329	9.5	330
3 Germany	17,959	217	-1.1	120
4 China	17,248	12	30.3	45
5 Korea	10,515	212	9.7	160
6 France	7,680	119	3.0	72
7 United Kingdom	5,523	87	-3.7	34
8 Netherlands	3,487	208	-0.6	71
9 Italy	3,245	53	-0.9	38
10 Canada	2,886	81	-1.3	33
⋮	⋮	⋮	2.9	⋮
24 Singapore	620	112	⋮	39
⋮	⋮	⋮	⋮	⋮
28 Malaysia	347	12	-11.3	17
⋮	⋮	⋮	⋮	⋮
41 Thailand	82	1	24.2	8

1 The Patent Cooperation Treaty

SOURCE: UNESCO Institute for Statistics; IMF - World Economic Outlook Databases (September 2014)

indicator, the number of registered patents, showed 11% annual growth from 2007-2011. Patenting itself is not an ultimate goal, but it represents one aspect of how academia can provide solutions to society. Malaysia was 28th in the world in 2011 on the number of patents, up from 32nd in 2007, as shown in Exhibit 7-6.

MRUs contributed 70% of the nation's academic publications from 2003 to 2012. As a result of collaboration between universities and industry, more than RM1.2 billion was generated by MRUs in their

capacity as solution providers to industry, agencies, and NGOs (2007-2012).

In terms of setting national priorities, as shown in Exhibit 7-7, Malaysia has several plans, each of which has a prioritised set of research areas. However, further alignment across stakeholders is required to ensure consistency in focus. To be competitive globally, it will be important for Malaysia to concentrate its resources in a few research areas where Malaysia has particular strengths.

EXHIBIT 7-7

Comparison of national priority areas across selected agencies

Focus areas/sectors	National Key Economic Areas	National Priority Areas (MOE)	NSRC's R&D Focus areas (MOSTI)	Third Industrial Master Plan (IMP3 - MITI)
Advance manufacturing		●		● Machinery and Equipment
Agriculture/ food	● Agriculture	● Food security	● Food security	● Halal and food processing
Bio diversity		●	●	
E&E (electrical and electronics)	●			●
Education	●			●
Energy security / Energy	● Oil, Gas and Energy	●	●	● Petrochemicals
Environment and Climate change		●	●	
ICT	● Comms content and infrastructure	●	● Cyber security	
Material science				● Textile and apparel, metals
Medical and healthcare	●	●	●	● Devices & pharmaceuticals
Plantation crops	● Palm oil	●	● Plantation crops and commodities	● Wood, rubber, oil palm
Services (business & financial)	● Business and financial			● Non-government
Tourism	●			●
Transportation	● Greater KL	●	●	● Equipment and logistics
Water security		●	●	
Wholesale and retail/ Distributive trade	●			●

SOURCE: EPU, MOE, MOSTI, MITI,

Objectives

The Ministry aims to facilitate the development of innovation ecosystems in a few national priority areas in order to fuel the nation's economic growth. This will require new collaboration models across academia, industry, government, and community. Higher learning institutions, in particular, will intensify their role as a solution provider for other stakeholders.



Principles

The strategies and initiatives in this Shift are underpinned by three principles:

- **Continue to support a full range of research, from fundamental to applied research**, to enable knowledge creation, talent development and academic excellence;
- **Prioritise areas where Malaysia has a competitive advantage and that are key to the country's economic growth.** The Ministry will concentrate its resources in areas that are aligned with the national economic growth agenda; and
- **Facilitate active collaboration between academia, industry, the government, and the community in identifying, funding, conducting, and applying research.** The Ministry will facilitate such collaboration to ensure closer linkages between demand from industry and supply of knowledge and technologies from academia.



Strategies and initiatives

Innovation ecosystems harness the quadruple helix of academia, industry, government and community to incubate, develop, and commercialise ideas. To intensify both university-driven and industry-driven models of commercialisation, three key strategies, each with its own corresponding initiatives, have been established in line with the core principles.

Strategy A: Be focused.

This strategy aims to align national priority research areas with other ministries and agencies, and to create a critical mass of resources in a few key research areas.

Strategy B: Be catalytic.

This strategy aims to enhance the efficacy of current funding mechanisms and increase investment from the private sector.

Strategy C: Be supportive.

This strategy aims to provide a supportive environment for the commercialization of ideas through measures such as technology transfer offices, co-utilisation of infrastructure and enhanced monitoring mechanisms.



Innovation ecosystems harness the quadruple helix of academia, industry, government and community to accelerate the commercialisation of ideas.

Initiative A1

Aligning strategic planning with other ministries and agencies

Multiple stakeholders are involved in the national innovation landscape. It is thus important to not only ensure alignment across all stakeholders on which research areas to focus on, but also to ensure that the efforts of each ministry or agency build on and reinforce one another. Accordingly, the Ministry will collaborate with other agencies to align national thematic areas of focus. Thereafter, the Ministry's disbursement of grants will follow those identified areas.

Initiative A2

Focusing on a few priority research areas

Currently, the Ministry's R&D expenditure is being spread across a broad range of research areas. In contrast, the experience of other successful systems has shown the importance of resource concentration in a few priority areas. The Ministry will therefore identify a few areas that are of particular importance for the ETP, and where Malaysia has a competitive advantage. The Ministry will promote these strategic areas by investing a larger share of resources towards them.

Initiative B1

Redesigning financing criteria and grant review and monitoring processes

The Ministry will organise training of research management and panel evaluation members in collaboration with AKEPT. The Ministry will also extend review periods to make it easier for reviewers to conduct comprehensive reviews and offer substantive comments. The monitoring process will also be improved by empowering HLIs to carry out mid-term evaluations.

Financial criteria will be more inclusive, and offer support for both short and long-term research activities. The promotion of matching grants by the Ministry will increase the involvement of industry partners that are currently less involved in R&D activities; this is particularly true for SMEs.

Initiative B2

Increasing the use of matching schemes

One of the reasons industry has a low appetite for investing in R&D is its poor understanding of R&D capabilities in academia, as well as the lack of a "matchmaking" scheme to bridge industry demand and academia expertise. To close the gap, the Collaborative Research in Engineering, Science, and Technology (CREST) programme was launched in 2012, and the Public-Private Research Network (PPRN) was introduced in 2014 (see Box 7-2).

The Ministry will replicate the CREST model in other sectors where there is strong industry participation and commitment, and academic strength. The Ministry will also promote the PPRN to companies involved with Malaysia's national priority research areas. The funding outcomes will be strictly monitored to ensure that money is used to boost industry productivity.

In addition, the Ministry will explore setting up an endowment fund to ensure continuity of funding during an economic downturn. The Ministry will explore different sources of funding for this fund, including donations from private enterprises in related industry sectors.

Box 7-2

CREST and PPRN

The CREST programme was founded as a non-profit organisation, in cooperation with the Malaysian Investment Development Authority (MIDA). Among its founders are 10 companies in the electrical and electronics (E&E) economic sector and three agencies and universities. This entity promotes and facilitates collaborative research between universities and industry players through the CREST R&D grant. To boost R&D in the E&E industry, a total of RM14.2 million in grants was awarded for R&D projects in 2012. Of that stated amount, RM5.6 million was funded by CREST while participating industry players contributed the remaining RM8.6 million.

The goal of the PPRN is to provide a "quick-wins" platform to drive collaboration between industry and academia and establish a peoples' network. Industry partners identify a problem that needs to be solved, which the network matches with university researchers who have the requisite expertise. Matching is conducted via an online mechanism and through direct matching supported by PPRN specialists.

Initiative C1 Strengthening technology transfer offices

Technology transfer offices (TTOs) play an important role in stimulating technology transfer from academia to industry by providing a set of end-to-end support services (see Exhibit 7-8)⁴. TTOs in Malaysian HLIs, however, need to be strengthened. Officials frequently lack the capabilities to support the end-to-end commercialisation process, or are experienced in industry but lack an understanding of science and technology. In addition, limited training opportunities are available to officials.

The Ministry will develop and organise master class training programmes in areas such as intellectual property rights, accounting, taxation, marketing, and negotiation. These training programmes will be available online to ensure a wider range of participants in business liaison roles, research management, and commercially-focused areas of academia. The Ministry will also encourage universities, as well as public and private research institutes, to explore pooling their resources in shared TTOs.

EXHIBIT 7-8

Illustrative services offered by Technology Transfer Offices to drive the commercialisation of R&D outputs



SOURCE: R.Graham (2014) MIT Skolteck Initiative; Imperial Innovations

⁴ Graham, R. (2014). *Creating university-based entrepreneurial ecosystems - evidence from emerging world leaders*. Retrieved from http://www.rhgraham.org/RHG/Recent_publications_files/MIT%3ASkoltech%20entrepreneurial%20ecosystems%20report%202014%20_1.pdf.

Initiative C2

Improving regulations and guidelines

It is important to have business-friendly regulations and guidelines to facilitate the commercialisation of ideas. To that end, the Ministry will collaborate with other HLIs to identify best practices in addressing any barriers that may exist. For example, some institutions' guidelines discourage professors from starting their own companies while holding a position at their university by placing limitations on the amount of equity they can hold. Where necessary, the Ministry will update its regulations and guidelines based on these best practices.

Initiative C3

Promoting co-utilisation of infrastructure

Advanced research facilities and equipment at HLIs are sometimes duplicated or underutilised. The Ministry will therefore work with HLIs to set up a database for available equipment and facilities to promote co-utilisation. This will not only improve cost-efficiency but also increase collaboration among researchers leading to innovative, inter-disciplinary solutions. Funding incentives will also be enhanced for such inter-disciplinary collaborations (for example, a group of applicants for a grant should consist of researchers from different research backgrounds, such as engineering and medicine).

Initiative C4

Improving data gathering systems

Data are currently fragmented across HLIs which makes it challenging to collate and summarize research outcomes, and inhibits the reporting of results to ministries. The Ministry will therefore improve its data management system to enable more effective impact monitoring of its research funding. Periodic evaluation on the impact of selected research programmes will also be done and input provided to refine national priority research areas in collaboration with external expert panels.

Initiative C5

Attracting and retaining top talent

Successful innovation ecosystems require top researchers and PhD students. HLIs are encouraged to design salary schemes and career pathways that offer greater flexibility so that Malaysia can attract and retain top talent. HLIs are also encouraged to provide meaningful training opportunities for their PhD candidates, postgraduates, and young researchers. By enhancing collaboration with industry, more practical opportunities will be available and researchers and students will acquire broader skill sets.



Initiative implementation roadmap

The strategies and initiatives within this Shift have been carefully sequenced across three waves to avoid overtaxing the system, and to ensure that each successive wave builds on the foundations laid previously. The planning, execution and monitoring of the implementation process will be conducted according to the proposed roadmap shown in the following Exhibit 7-9.

EXHIBIT 7-9

	Wave 1 (2015)	Wave 2 (2016-2020)	Wave 3 (2021-2025)
A Strategy A Be focused	<ul style="list-style-type: none"> Align strategic planning of research priorities with other ministries and agencies; and Elevate a few research areas that are critical to Malaysia's economic growth, and where Malaysia has a competitive advantage. 	<ul style="list-style-type: none"> Revise grant disbursement criteria and Ministry guidelines for HLIs to reflect the prioritisation of these research areas. 	<ul style="list-style-type: none"> Review progress of existing initiatives and introduce new interventions where needed to further boost efficiency and effectiveness.
B Strategy B Be catalytic	<ul style="list-style-type: none"> Redesign financing criteria and enhance grant review and monitoring processes; and Design and increase use of matching schemes to secure funding from industry and community. 	<ul style="list-style-type: none"> Continue expanding use of matching schemes to secure funding from industry and community, particularly in national priority research areas. 	<ul style="list-style-type: none"> Review progress of existing initiatives and introduce new interventions where needed to further boost efficiency and effectiveness.
C Strategy C Be supportive	<ul style="list-style-type: none"> Attract and retain top researchers and PhD students. 	<ul style="list-style-type: none"> Motivate universities to enhance supporting functions for technology transfer; Collaborate with other stakeholders to improve regulations and guidelines for commercialisation; Match stakeholders to promote co-utilisation of infrastructure; Improve data gathering systems across the Ministry and HLIs; and Attract and retain top researchers and PhD students. 	<ul style="list-style-type: none"> Review progress of existing initiatives and introduce new interventions where needed to further boost efficiency and effectiveness.



Conclusion

Successful innovation ecosystems require close collaboration of the quadruple helix comprising of academia, industry, government and community. Governments typically play a particularly critical role, both as a major funding body and as a policymaker, facilitating collaboration among stakeholders. Malaysia's successful transformation from a middle- to high-income advanced nation will depend on the extent to which it can harness innovation as an engine of growth. The Ministry thus aims to facilitate the development of innovation ecosystems by tightening its focus on a few national priority research areas critical to Malaysia's growth, stimulating investment from private sector as well as creating a supportive environment to facilitate the commercialisation of ideas.

Tracking measures

The Ministry will track the progress and impact of this Shift against a set of outcome-based measures. These measures are not intended to be exhaustive and may evolve over time. Targets will also be set for each measure on an annual basis.

- Number of publication **counts weighted by citation and tiering**;
- Number of books that are in **the top 20 list** of each disciplines;
- Number of PhD candidates **enrolled and graduated**; and
- **Total income** generated by universities, based on licence agreements, royalties, consultation, and contract research earned from commercialisation initiatives and as solution providers.

Shift

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8



Global Prominence

Higher education in Malaysia has come a long way. It has progressed from an importer of ideals, structures, and models of higher education to a globally-connected player recognised internationally for its academic and research excellence. Moving forward, Malaysia needs to review its existing strategies and initiatives for positioning the expertise, capacity, and capability of its higher education system in order to enhance its appeal and competitiveness within the region and beyond. This chapter describes Malaysia's aspirations for going global, its current standing, and the concerted effort required to transform the system into one that is relevant, referred to, and respected by the global community.

Why it matters

The education sector has one of the highest multipliers. For every ringgit invested in education, it generates income not only from the sector but also from other sectors it supports. It also has exponential intangible impact.

Consequently, the internationalisation of education and the creation of education hubs has been an increasing global trend. Competition amongst hubs and countries has intensified to capture the full benefits of education.

Education as a National Key Economic Area

Education sector is one of the 12 National Key Economic Areas (NKEAs) in the government's Economic Transformation Programme (ETP). The sector is expected to generate an approximately RM33.6 billion in Gross National Income (GNI) and creates 3.3 million jobs by 2020¹. The United Nations Organisation for Education, Science, and Culture (UNESCO)² notes that Malaysia is on the right track in developing the sector, as shown by the significant growth of Malaysia's research output and its expanding postgraduate enrolment. However more needs to be done to enhance international collaboration and quality of research output. It is therefore essential for Malaysia to continue its investment in the higher education sector.

ASEAN-Integrated economic community

Malaysia is strategically located at the heart of South East Asia and has direct access to a population of over 620 million. The region has immense economic opportunities: a growing middle class; a large youth cohort between 5-19 years old; increased growth in the service sector; and active trade and investment activities among the ASEAN

countries and their neighbours^{3,4}. By the end of 2015, the region will become economically integrated under the ASEAN Economic Community (AEC) agenda, and member countries will be able to move goods, services, investments, capital and skilled labour more freely through the region⁵. 2015 also marks the start of Malaysia's ASEAN Chairmanship. As such, the Malaysia Education Blueprint 2015-2025 (Higher Education) or MEB (HE) needs to prepare Malaysian graduates to meet the challenges of an environment with increased competition to harness the full potential of regional integration.

International student hub

Based on the latest Ministry data, Malaysia is now among the top recruiters of international students globally. The enrolment for international students has increased from 45,000 in 2007 to nearly 100,000 in 2014⁶, an increase of more than a hundred percent since the launch of the National Higher Education Strategic Plan 2007-2020 or *Pelan Strategik Pengajian Tinggi Negara 2007-2020* (PSPTN). Malaysia is on the right track to position itself as an international student hub and efforts must continue to enhance its standing.

¹ Performance Management and Delivery Unit (PEMANDU) (2010). Economic Transformation Programmes: A Roadmap for Malaysia, Chapter 14 Transforming Education as engine of growth. Retrieved from http://etp.pemandu.gov.my/upload/etp_handbook_chapter_1-4_economic_model.pdf.

² UNESCO Institute of Statistics (2014). *Higher Education in Asia: Expanding out, expanding up*. Retrieved from <http://www.uis.unesco.org/Education/Pages/higher-education-asia-report.aspx>.

³ Oberman, R., et al. (2012). *The archipelago economy: Unleashing Indonesia's potential*. Washington, D.C.: McKinsey Global Institute.

⁴ ASEAN Secretariat (2014). *ASEAN community in figures (ACIF 2013)*. Retrieved from <http://www.asean.org/resources/item/asean-community-in-figures-acif-2013>.

⁵ ASEAN Secretariat (2008). *ASEAN Economic Community Blueprint, Association of Southeast Asian Nations*. Jakarta, Indonesia. Retrieved from <http://www.asean.org/archive/5187-10.pdf>.

⁶ Kementerian Pendidikan Malaysia (2014). *Perangkaan Pengajian Tinggi Negara: Sektor Pengajian Tinggi*. Retrieved from http://www.moe.gov.my/web_statistik.

Where we are

Malaysia, like many countries began with building local HLIs for the benefit of its local students and citizens. However, with the rising importance of internationalisation, policies and initiatives were put in place to strengthen Malaysia's global position, brand and prominence. As a result, Malaysia is amongst the top destinations for international students today and has built strong links with the international community.⁷

Internationalisation of Malaysia higher education

Policies and strategies for internationalisation for Malaysia higher education have been in place through these following policy documents:

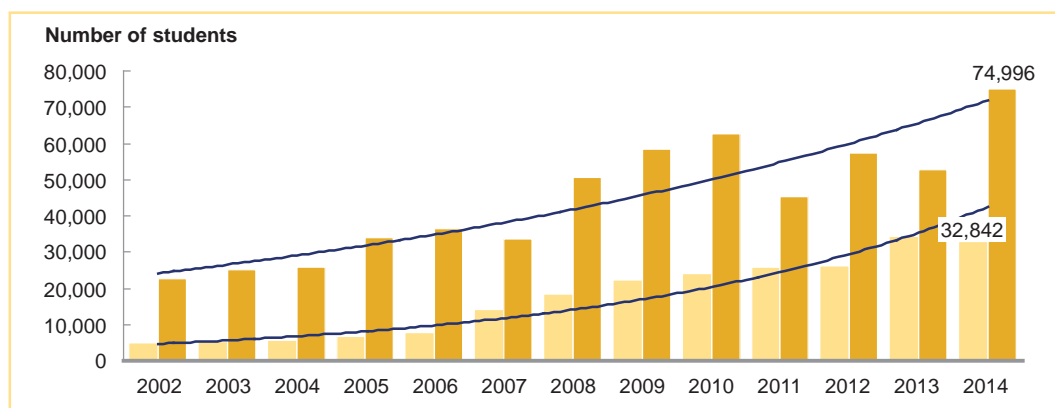
- PSPTN. This landmark document shaped the focus and direction of the higher education system and its efforts at going global;

- *Intensifying Malaysia's Global Reach: A New Dimension*. This document positions higher education as a means of "soft power"⁸ (education diplomacy) to capture the hearts and minds of local and international stakeholders relating to values and the culture of learning to benefit their communities; and
- *Internationalisation Policy for Higher Education*. The policy outlines six critical sectors in implementing internationalisation: student mobility, staff mobility, academic programmes, research and development, governance and autonomy, and social integration and community engagement. This document set detailed action plans with a view of accelerating the inflow of international students to meet the target set in PSPTN.

The Ministry will build on the plans and recommendations from these documents in its effort to strengthen its position as an international global education hub.

EXHIBIT 8-1

The number of international students for private HLIs and public universities



⁷ The Guardian (2014). *Top 20 countries for international students*. Retrieved from <http://www.theguardian.com/higher-education-network/blog/2014/jul/17/top-20-countries-international-students>.

⁸ Nye, Joseph S. Jr. (1991). *Bound to Lead: The Changing Nature of American Power*. New York: Basic Books.

International students and staff

Malaysia has initiated and intensified efforts in international student recruitment since the late 1990s. The introduction of the Private Higher Educational Institutions Act (1996) enabled the rapid expansion of the private sector. The private sector now plays a key role in receiving international students with students enrolling in private to public HLIs at a ratio of 7:3⁹. The growth in international student enrolment has been exponential for both private HLIs and public universities (see Exhibit 8-1).

Malaysian HLIs have seen an increase in their international academic staff from 2,300 in 2007 to 9,000 in 2014. More than 65% of them are employed by private HLIs¹⁰. Malaysia also currently hosts nine international branch campuses and can expect a rise in the number of international students and staff as these branch campuses are from world renowned universities.

The presence of international students and staff drives Malaysian HLIs to infuse “global, international, and intercultural” dimensions¹¹ into their teaching, learning, and research functions. It also brings crucial changes to the domestic higher education landscape.

A 2014 UNESCO study¹² has shown that students choose Malaysia for its internationally recognised and competitively priced academic programmes, opportunities to live and practice their own culture, and the unique multicultural experience that Malaysia offers. Students are also attracted to the widespread use of English as a medium of communication in both academic and social settings (see Box 8-1). The study also noted that Malaysia hosts a significant number of international students from developing economies, illustrating the important role of the country in facilitating the development of future leaders in those countries. In particular, Malaysia is one of the fastest-growing hosts for internationally-mobile students alongside China, Singapore, and India¹³.

Improving international students' experience

Although much has been done to facilitate the presence of international students and staff, there is still room for improvement in their recruitment and management. Malaysia needs to increase its efficiency in international student recruitment and international student management. The improvements needed include:

Box 8-1

Why has Malaysia become a preferred education destination?

The UNESCO report on *Higher Education in Asia: Expanding Out, Expanding Up* (2014) identifies five prominent factors influencing students' choices to select Malaysia:

- **Cultural comfort** - Malaysia is a melting pot of cultures and ethnicities. UNESCO highlights that Malaysia provides a friendly environment particularly for Muslim students, whose values and practices are understood, widely shared and respected;
- **Cost** - The costs of undergraduate and graduate degree programmes in Malaysia are considered very affordable;
- **Value for money** - UNESCO highlights that the strong quality of Malaysian higher education is perceived as representing value for money;
- **Language of instruction** - Many programmes are taught in English, which is perceived to be a critical language to master in order to access international employment opportunities; and
- **Quality of life** - Malaysia offers a good quality of life and is widely regarded as a comfortable place to live and study.

⁹ Department of Higher Education, Ministry of Education, Malaysia. (2014).

¹⁰ Kementerian Pendidikan Malaysia. (2014). *Perangkaan Pengajian Tinggi Negara: Sektor Pengajian Tinggi*. Retrieved from http://www.moe.gov.my/web_statistik

¹¹ Knight, J., & Sirat, Morshidi. (2011). *The Complexities And Challenges Of Regional Education Hubs: Focus on Malaysia*. Higher Education, 62(5), 593–606.

¹² Jani, R., & Zubairi, Y.Z. (June 17, 2010) *International Students' View of Malaysian Higher Education*. Ministry of Higher Education, Putrajaya.

¹³ British Council (2012). *The Shape of Things to Come: Higher Education Global Trends and Emerging Opportunities to 2020*. Retrieved from http://www.britishcouncil.org/sites/britishcouncil.uk2/files/the_shape_of_things_to_come_-_higher_education_global_trends_and_emerging_opportunities_to_2020.pdf.

Objectives

The Ministry aspires to develop Malaysia as an international education hub with a difference, one that is valued by students for its competitive advantage in providing value-for-money higher education and that balances quality and affordability with the added value of rich cultural experiences. This includes the continuous expansion of Malaysia's capacity to host international students for higher education, with a target enrolment of 200,000 international students by 2020 and 250,000 by 2025.

- Students experience before, during and after their study in Malaysia. This involves helping them apply for admissions, dealing with immigration procedures in visa approval and renewal, and enriching their experience with Malaysia's unique offerings;
- Institutional capacity in providing high quality and adequate support services by both public and private HLIs¹; and
- Clear academic and career progression pathways for international students who wish to stay on to build their careers and contribute to Malaysia's talent pool.

Strengthening Malaysia's education brand

Malaysia needs to step up its efforts in building a solid higher education brand in order to sustain its position as one of the top recruiters of international students. This branding should build on the current perception of Malaysian higher education as affordable, welcoming, and of high quality. More can also be done to diversify the student body (see exhibit 8-2). Given Malaysia's strategic interests, for example, recruitment should focus on students from the ASEAN region and countries involved in the South-South Cooperation¹⁴. "Non-traditional" sources such as Australia, Europe, and the USA could also be tapped for programmes in Malaysia's niche areas of expertise and mobility programmes.

EXHIBIT 8-2

Demographics of international students



On average 30 are enrolled at postgraduate level

SOURCE: Higher Education Sector, Ministry of Education Malaysia

1. SOURCE : Department of Immigration Malaysia, data effective for the year 2012
 2. Country classification based on United Nation (UN)'s country classification
 3. Only 82% featured in the analysis above. The remaining 18% are categorised as "stateless" and "others" under Department of Immigration classification.

¹⁴ United Nations Office for South-South Cooperation. (n.d) *What is SSC?*. Retrieved from http://ssc.undp.org/content/ssc/about/what_is_ssc.html.

Principles

The following principles are the basis for building Malaysia's reputation as an education hub:

- **Increase the overall quality of academic programmes** and expertise in order to attract top international students and scholars;
- **Develop niche areas** that will differentiate Malaysia from its peers in order to create a unique global brand for Malaysia;
- **Ensure continuous visibility and presence of Malaysia's education brand** globally to create awareness and sustain interest in Malaysia; and
- **Diversify the pool of students and academic staff.** Malaysia can promote programmes for continuing professional education and skill enhancement, in addition to postsecondary education and postgraduate programmes.



Strategies and initiatives

Three strategies, each with its own corresponding initiatives, are proposed in order to achieve the objective of this Shift.

Strategy A: Enhancing the international student experience

In order to attract more international students, the Ministry will improve the coordination of all activities related to the management of international students. The Ministry will collaborate with all stakeholders, from HLLs to the Immigration Department, to ensure a seamless experience for students from the time they apply through to the completion of their studies. The Ministry is also cognisant of its role in facilitating administrative processes and procedures in an efficient and industry-friendly manner, and highlighting stakeholders' obligation to ensure the safety and welfare of international students.

Strategy B: Increasing brand visibility

The Ministry seeks to build greater global visibility of and trust in the Malaysian higher education brand. To achieve the former, the Ministry will partner with relevant agencies to develop

and implement high-impact promotional activities. This could include participating in or hosting major education forums. The latter can only be achieved through the provision of high quality programmes and enrichment of student experiences. This will be achieved through the other Shifts outlined in the MEB (HE).

Strategy C: Attracting new markets

The Ministry will continue to attract students from developing countries, especially South-South and ASEAN nations. It will also expand recruitment to developed countries such as the USA, Australia and Europe. To attract these students, Malaysian HLLs will offer more innovative programmes that appeal to a wider student base. This could include joint degree or double degree programmes with world-renowned institutions or short-term executive education programmes for working professionals. Malaysian HLLs will also enhance offerings in their niche areas of expertise, as this will provide them with a competitive advantage in recruiting students, especially those from developed nations.



Initiative A1

Consolidating inter-agency data intelligence

The Ministry will enhance its data analytics capabilities, particularly with regard to trends in international education, to enable more informed decision-making at both institutional and national levels. To do so, the Ministry will review current practices in gathering and sharing information with other HLIs, agencies, and entities responsible for internationalising higher education, such as Education Malaysia Global Services (EMGS). The Ministry will also identify the required resources for conducting market surveys, trend analysis, and other forms of intelligence gathering.

Initiative A2

Reforming immigration procedures

International students' positive experience can be enhanced through efficient immigration services. The Ministry will explore the establishment of a national-level, cross-Ministry taskforce on immigration reform to increase the efficiency of managing admission procedures for international students and their dependents. The reform will streamline issues related to student visa applications and renewal, which include work flows, waiting time, manpower and resources in managing applications, matters related to passports, and process tracking.

Initiative A3

Remodelling Malaysia international scholarships

The Ministry recognises that there are many HLIs and private organisations or endowment funds that offer scholarships to international students. It will remodel the current Malaysia International Scholarship (MIS) and collaborate with other scholarship awarding entities to develop a centralised platform for advertising scholarships. This will make it easier for international students to seek and apply for scholarships. The MIS will also serve as a centralised system that compiles contact information and records of all scholarship recipients. This will make it easier for companies to recruit scholarship recipients upon graduation.

Initiative A4

Improving HLIs' ability to host international students

Quality facilities and services will undoubtedly enrich students' experience. Malaysian HLIs will enhance their efficiency and effectiveness in hosting international students through the adoption of international best practices. To assist HLIs in doing so, the Ministry will facilitate best practice sharing forums, develop guidelines, and build capacity for support staff. The Ministry will also ensure that HLIs which host international students meet a minimum quality standard on national quality assessment frameworks. Areas that are currently being considered include:

- **Multiple year student visas** that align to the duration of postgraduate or PhD programmes; and
- **Differentiated approach** for student processes such as an accelerated "green lane" approach for students from HLIs who have consistently demonstrated high quality standards.



Initiative A5

Facilitating clear academic and professional pathways

The Ministry will encourage HLIs to recruit and retain the best international scholars through appropriate policy changes and incentives at the institutional level. This initiative will also tie in with immigration reforms, especially on matters concerning professional work permits for graduating international students, postdoctoral candidates, and their dependents.

Initiative B1

Strengthening MyAlumni

The Ministry aspires for the Malaysian higher education system to maintain continuous relations with its international student population, long after they graduate and return to their home countries. The Ministry aims to develop MyAlumni into a fully autonomous operational structure with greater financial and physical resources. MyAlumni aims to expand engagement of the Malaysian higher education system with its international alumni population.



Initiative B2

Supporting education-based international conventions

A quick way to position Malaysia internationally is to host major international events such as the Asia Pacific Association of International Education (APAIE) Annual Conference, or the Going Global Annual Conference. In order to secure the rights to host such conferences, the Ministry will need to coordinate efforts and pool resources with Malaysian HLIs and other relevant ministries. The Ministry will also identify potential themes that can be developed into appropriate events capable of capturing the interest of the global higher education community.

Initiative C1

Diversifying quality and niche programme offerings

The Ministry is aware that quality programmes are very important to attract international students. It will ensure both public and private HLIs offer high quality and innovative academic and professional programmes. The programmes will be up-to-date, industry relevant, able to offer insights into international best practices, and be accredited by international professional organisations. Additionally, the Ministry will encourage HLIs to increase innovative and collaborative programmes such as joint-degree and double degree programmes. HLIs will offer more executive programmes for business or community leaders and increase continuing professional development (CPD) programmes for working adults and professionals.

Initiative C2

Setting up prominent international research laboratories

Research can be a catalyst to spur Malaysian higher education to even greater heights. To this end, the Ministry will encourage and facilitate the establishment of international research laboratories in Malaysia with HLIs, industry, and organisations as co-collaborators. This initiative will build domestic capacity for high-impact research projects, and enhance Malaysia's profile as a global knowledge contributor.

Initiative implementation roadmap

The strategies and initiatives within this Shift have been carefully sequenced across three waves to avoid overtaxing the system, and to ensure that each successive wave builds on the foundations laid previously. The planning, execution and monitoring of the implementation process will be conducted according to the proposed roadmap shown in the following Exhibit 8-3.

Exhibit 8-3

	Wave 1 (2015)	Wave 2 (2016-2020)	Wave 3 (2021-2025)
A Strategy A Improving international student management	<ul style="list-style-type: none"> Collaborate with other ministries to streamline issues with visas to align with international best practice; Enhance intelligence gathering mechanisms and infrastructure, particularly for EMGS; Remodel the coordinating body for the MIS; and Introduce attractive career pathways for top international students and scholars in order to improve talent retention. 	<ul style="list-style-type: none"> Finalise and implement reforms on management of international students; Establish MIS governing structure for key functions such as funding and performance monitoring; and Introduce dimension on compliance with best practices in hosting international students in Malaysia's institutional rating instruments. 	<ul style="list-style-type: none"> Review progress of existing measures and introduce new interventions where needed to further boost efficiency and effectiveness.
B Strategy B Increasing visibility	<ul style="list-style-type: none"> Commence comprehensive stakeholder engagement to build awareness of Malaysia's education brand; Develop strategy for strengthening MyAlumni Identify world-class education forums for Malaysian HLIs to host. 	<ul style="list-style-type: none"> Promote the Malaysia education brand through strategic platforms and in a sustained manner; Implement strategy to strengthen MyAlumni; and Commence hosting of world-class education forums. 	<ul style="list-style-type: none"> Review and refine Malaysia's education brand.
C Strategy C Attracting new markets	<ul style="list-style-type: none"> Introduce stimulus packages for internationalisation of curriculum Encourage innovative and collaborative joint degree programmes with renowned global institutions Initiate setting up of collaborative research lab jointly established with international partners and industry 	<ul style="list-style-type: none"> Strengthen South-South cooperation on student recruitment Offer innovative programme; particularly in each HLI's niche areas to attract wider pool of students and staff; and Set up research labs or centres with industry and international partners. 	<ul style="list-style-type: none"> Review progress of existing measures and introduce new interventions where needed to further diversify the international student population.

Conclusion

Over the past two decades, Malaysia has developed a strong global brand as an affordable, welcoming and good quality education hub. With education named as one of the 12 NKEAs under the ETP, and the upcoming integration of the ASEAN Economic Community (AEC), Malaysia is poised to take advantage of its strategic location in the centre of South East Asia. This Shift aims to further strengthen Malaysia's brand as a destination that offers value-for-money higher education with an added value of rich cultural experiences. To achieve this ambitious goal, the Ministry will initiate measures to enhance the international student experience, increase brand visibility and attract new markets. This will move Malaysia one step closer in fulfilling its potential of achieving global prominence.

Tracking measures

The Ministry will track the progress and impact of this Shift against a set of outcome-based measures. These measures are not intended to be exhaustive and may evolve over time. Targets will also be set for each measure on an annual basis.

- The number of **international students enrolled**;
- The number of **international staff recruited**;
- **Student and staff mobility**; and
- **Average processing time** for student visa application and renewal.

Shift

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9



Globalised Online Learning

Online learning which has been implemented in Malaysia for several decades, is the delivery of learning by electronic means typically through the Internet. This instructional model has been instrumental in widening access to education, enhancing the quality of teaching and learning while enabling greater personalisation of student learning. The next horizon for ICT-based learning is Globalised Online Learning (GOL). There are significant opportunities for Malaysian HLIs in embracing the full potential of GOL. Here, the term globalised not only refers to the desire for a global target audience but also the development of e-content that is of international standard.

This chapter discusses the importance of this technology-enabled mode of education and where Malaysia currently is in the development of GOL. It proposes key initiatives to improve GOL in order to enhance the quality of course-delivery, lower the cost of delivery, bring Malaysian expertise to the world, enhance the branding and visibility of Malaysian HLIs as well as to foster life-long learning among Malaysians. Due to its significance in the national policy on GOL, this chapter also covers Massive Open Online Courses (MOOCs).

Why it matters

Online learning and Massive Open Online Courses (or MOOCs) are proving to be a disruptive forces in higher education globally. They are beginning to do to higher education what online shopping has done to the retail industry and what smartphones have done to communication. This digital phenomena is expected to have the same impact that digital technology has had on other industries, such as driving down costs, improving quality by removing variability, increasing consumption, as well as disconnecting consumption from time and location constraints.

The growth of online learning

In 2014, there were 3.035 billion Internet users in the world, representing an overall rate of 42.3% Internet penetration¹. This growth in users has in turn facilitated the increased usage of online learning. It is estimated by 2019, 50% of all classes² taught in high schools in the United States of America (USA) will be delivered online. More importantly, it is predicted that by 2020, 50% of all campus coursework in colleges in the USA³ will have a combination of in-person and online learning. Massive open online courses (MOOCs) are already available globally through platforms such as edX⁴ and Coursera⁵. The rise of a generation of "digital natives", young people who have grown up immersed in digital technologies and for whom a life fully integrated with digital devices is the norm, mean that the demand for online learning is likely to accelerate.

Widening access of higher education

GOL is an avenue to extend the reach of courses offered by Malaysian HLIs. It will widen access and liberalise higher education by making it easily available to all segments of society. GOL can also reduce

costs as the on-campus courses offered by a particular HLI can now be accessed by students of other HLIs. This will also increase efficiency by eliminating the need for multiple offerings of courses. The implementation of GOL also alleviates the need for extra physical spaces to accommodate higher enrolment. In addition, GOLs can also ease the pressure on over-subscribed courses such as first year common courses.

Malaysia education through GOL

GOL is an important enabler in achieving Malaysia's goal in terms of access, quality and efficiency of higher education. It incorporates blended learning models (where face-to-face classroom instruction is combined with computer-mediated learning) which can enhance the quality of teaching and learning by increasing the degree of interactivity and engagement of students. A meaningful learning environment can also be created through interaction between local and international students, thus creating a community of learners with different perspectives and worldviews. Further, GOL can enable global visibility of and access to Malaysian niche areas and expertise such as in Islamic banking and finance, tropical related science and technology themes and eastern cultures, which will help Malaysian HLIs gain global prominence.



¹ International Usage Statistics (2015), World Internet Users and 2014 Population Stats. Retrieved from www.internetworldstats.com/stats.htm

² Christensen, C.M. & Horn, M.B. (2011). *The rise of online education*. Retrieved from http://www.washingtonpost.com/national/on-innovations/the-rise-of-online-education/2011/09/14/gjQA8e2AdL_story.html

³ Financial Times. (2015). *The future of online learning*. Retrieved from <http://www.ft.com/intl/cms/s/2/f8a03bbe-9802-11e4-b4be-0014feabdc0.html#axzz3PifjCPSO>

⁴ edX (2014). Free online courses from the world's best universities. Retrieved from <https://www.edx.org>

⁵ Coursera (2014). Free Online Courses From Top Universities. Retrieved from <https://www.coursera.org/>

Where we are

Globalised online learning and MOOCs have created a dramatically different model for students from all over the world to engage with one another with high quality instruction. This has provided a new platform to transform higher education.

Malaysia has a real opportunity to be a pioneer and lead the way by integrating digital technology, blended learning and MOOCs into its higher education system and truly establish a new cutting edge 21st century system of teaching and learning. In recent years, both in Malaysia and globally, new online learning models especially MOOCs have created a dramatically different model for students from all over the world to engage with one another on highly relevant topics and with high quality instruction. This has provided a new platform and opportunities to transform higher education.

e-Learning among Malaysian HLIs

The National e-Learning Policy or *Dasar e-Pembelajaran Negara (DePAN⁶)* was launched under the National Higher Education Strategy Plan or *Pelan Strategik Pengajian Tinggi Negara (PSPTN)*. DePAN provides the framework for quality e-learning deployment at Malaysian HLIs and is made up of five pillars. These pillars are infrastructure, structure of organisation, curriculum and content, professional development, and enculturation to enable HLIs to implement their e-learning initiatives.

A study on the achievement of DePAN implementation shows room for improvement, especially among polytechnics and community colleges. The findings are summarised in Exhibit 9-1.

MOOCs at Malaysian HLIs

In September 2014, the Ministry launched four first year undergraduate common compulsory courses offered by *Universiti Kebangsaan Malaysia (UKM)*, *Universiti Putra Malaysia (UPM)*, *Universiti Teknologi MARA (UiTM)* and *Universiti Malaysia Sarawak (UNIMAS)* using the MOOCs concept. The first of its kind in the world, these undergraduate courses bring together all first-year students from 20 Malaysian universities on a single platform. This launch is significant as it marks the first foray of Malaysian public universities into MOOCs.

The way forward for GOL

Malaysian HLIs have the opportunity to further harness the potential of GOL and MOOCs. DePAN will be revised accordingly to incorporate the GOL agenda with regard to enhancing the quality of teaching and learning, developing the Malaysia education brand, and positioning and increasing the visibility of Malaysian HLIs in the global education landscape through their niche areas of expertise. The implementation of GOL will also contribute to efficiency in course delivery and subsequently lead to the greater liberalisation of Malaysian education. This will also support the national agenda of building a knowledge society and a nation of lifelong learners.

⁶ Ministry of Education Malaysia (2014). Review of the National Higher Education Strategic Plan. Retrieved from http://smart2.ums.edu.my/pluginfile.php/2/course/section/2/dasar_e-pembelajaran_negara_depan.pdf

Study of DePAN implementation achievement shows room for improvement, especially among polytechnics and community colleges

Dimension	Question	Public universities	Private HLIs	Poly-technics	Community colleges
Infrastructure	My HLI has 1 Gbps bandwidth capacity ¹	Yellow	Orange	Yellow	Red
	My HLI has the e-learning platform ¹	Green	Green	Yellow	Yellow
	My HLI has e-learning helpdesk service ¹	Green	Green	Red	Green
	My HLI bandwidth speed capacity is satisfactory ²	Orange	Yellow	Orange	Yellow
	My HLI bandwidth access is satisfactory ²	Orange	Green	Red	Yellow
	My HLI e-learning platform utilization is satisfactory ²	Yellow	Yellow	Orange	Orange
Organization structure	My HLI has intergrate e-learning in its vision ¹	Yellow	Green	Yellow	Orange
	My HLI has the e-learning team ¹	Green	Green	Green	Red
	My HLI has e-learning guideline ¹	Green	Yellow	Red	Red
	My HLI has e-learning unit ¹	Green	Green	Yellow	Red
Professional development	The e-learning platform utilization is satisfactory ²	Yellow	Yellow	Orange	Orange
	The ICT skills and literacy is satisfactory ²	Yellow	Yellow	Orange	Yellow
Curriculum and e-content	The delivery utilising the blended mode is satisfactory ²	Orange	Yellow	Red	Orange
	The availability of original e-content is satisfactory ²	Orange	Yellow	Red	Orange
	e-Assessment deployment is satisfactory ²	Orange	Orange	Red	Red
Enculturation	The e-learning activities and practice is evident ²	Orange	Orange	Orange	Red
	The e-learning enculturation is satisfactory ²	Yellow	Yellow	Orange	Orange
	The recognition mechanism is satisfactory ²	Orange	Yellow	Green	Red

1 ■ = <=25% yes
■ = 25-50% yes
■ = 50-75% yes
■ = >75% yes

2 ■ <=2 average
■ = 2-3 average
■ = 3-4 average
■ = >4 average (where 1 = most disagree; 5 = most agree)

Source: DePAN implementation survey

Objectives

Malaysia aspires to be a premier education hub through GOL. This Shift will see the increase of access to quality education for Malaysians and global community, provide efficient course delivery, build the Malaysia education brand and increase prominence for Malaysian HLIs, especially in niche areas and expertise.



Image from World bank education, Flickr CC 2.0

Principles

The strategies and initiatives in this Shift are underpinned by three principles:

- **ICT-enabled learning has enormous transformative potential.** It enables greater personalisation of the learning experience and increases learners interactivity. This model is only expected to grow in importance, particularly among the new generation of digital natives;
- **Blended learning models which integrate the best of ICT-enabled learning with face-to-face instruction.** These pedagogical models create an engaging learning environment and enhance the quality of teaching and learning; and
- **Online learning as a key enabler for the other Shifts.** GOL can widen access to higher education in a cost-effective manner, and increase the visibility of Malaysia's higher education brand.



Strategies and initiatives

The Ministry will introduce three strategies, each with its own corresponding initiatives, to achieve the aspirations of Global Online Learning.

Strategy A: Improving support for the GOL ecosystem

The Ministry will facilitate the setup of a comprehensive and sustainable GOL ecosystem. There are three components to this ecosystem: a high degree of awareness from all stakeholders on the huge potential of online learning; a competent workforce who are capable of utilising and advancing technology, and who will develop course content; and a reliable cyber infrastructure. The development of course content and delivery through online learning require input from a team of experts in subject matter, pedagogy, graphics, and IT, among others, to produce creative and interactive courses.

Strategy B: Establishing GOL platform administrative structure

The Ministry will facilitate the establishment of a mechanism to oversee the policy development, management, and implementation of GOL. The establishment of a National e-Learning Centre will be considered and evaluated in order to spearhead the e-content development, coordination, monitoring as well as strengthening international linkages.

Strategy C: Enabling global prominence through GOL

HLLs will increase quality course offerings through online learning, with a focus on their niche areas of strength, to attract more students and build their global visibility. HLLs will find strategic partners in building this course content and securing credit transfer arrangements for their students. HLLs are also encouraged to exercise greater flexibility in recognising and accepting courses offered by other institutions through credit transfer.



The rise of a generation of “digital natives”, young people who have grown up immersed in digital technologies and for whom a life fully integrated with digital devices is the norm, mean that the demand for online learning is likely to accelerate.

Initiative A1

Upgrading cyber infrastructure

The Ministry will collaborate with the relevant agencies and institutions to improve the following elements:

- Infrastructure: improve bandwidth capacity and Wi-Fi coverage to enable video streaming and teleconferencing;
- Info structure: provide hardware and software for e-content development;
- Platform: work with a range of platform systems from existing international 'OpenLearning' platforms to global recognized platforms such as Coursera and edX; and
- Devices and equipment: increase availability of learning devices.

Initiative A2

Enhancing awareness and recognition

Malaysian HLIs will collaborate to develop common courses leveraging the expertise available in the respective institutions and establish mutual recognitions of courses. HLIs will also expand the use of MOOCs in blended learning. To build awareness and interest, the Ministry will introduce mechanism for the development of quality and international standard MOOCs, especially in niche areas where HLIs will be able to achieve global recognition.

Initiative A3

Strengthening content development and delivery

Lecturers will be required to innovate their teaching and learning practices in order to create conducive blended learning environments. To assist them in doing so, Higher Education Leadership Academy or *Akademi Kepimpinan Pengajian Tinggi* (AKEPT) and individual HLI will improve their pedagogical and professional development programmes for academic staff. In addition, the HLIs will need to build their internal capacity to support blended learning content development and delivery by sourcing for relevant experts in subject matter, pedagogy, graphics and IT.

Initiative B1

Strengthening coordination for implementation

Appropriate mechanism will be put in place for the effective management and implementation of GOL initiatives. The establishment of National e-Learning Centre (NeLC) will be considered and evaluated. A centre such as this could enhance policies, guidelines and processes to ensure coordinated efforts in planning, developing and deploying all aspects of online learning including MOOCs. Such coordination is not limited to Malaysian institutions alone, but will also encompass partnerships with international consortiums and HLIs.

Initiative B2

Updating the national e-Learning policy

Successful deployment of GOL will be dependent on an implementation framework guided by international best practices. The Ministry through the NeLC will facilitate the updating of the National e-Learning Policy (DePAN) to incorporate a new MOOCs strategy. HLIs will also be encouraged to keep up with current best practices and technologies for the deployment of GOL.

Initiative C1

Enabling credit transfer framework recognition

The course curriculum at every Malaysian HLIs needs to be revised to allow for the recognition of courses completed by students via MOOCs. This should be done in consultation with the Malaysian Qualifications Agency (MQA). Malaysian HLIs will also be encouraged to undertake international benchmarking with the target of having Malaysian MOOCs become part of international MOOC consortiums.

Initiative C2

Supporting lifelong learning

The Ministry will develop a common platform to enhance the use of MOOCs for lifelong learning. The Malaysian public can then enrol in low-risk and low-cost courses, which will provide them the opportunity to access high quality credit-bearing courses. These credits could, in turn, be recognised towards a diploma or even a degree programme. The MOOC initiatives of Malaysian HLIs can also be used to support the continuous professional development of Malaysian civil servants in collaboration with other training agencies. In this way, the MOOCs initiative can become the catalyst for the enculturation of lifelong learning among Malaysians.

Box 9-1

Leveraging MOOCs to transform the higher education system in Malaysia

What are MOOCs?

Massive Open Online Courses, or MOOCs, are online courses aimed at unlimited participation and open access via the Internet. The idea is simple – MOOC providers put courses taught by highly effective professors (often from prestigious universities such as Stanford, University of London, University of Toronto and Australia National University) online for anyone to access. For example, since 2012, more than 11.9 million students from around the world have taken courses via Coursera, one of the first MOOC providers.

One big reason behind the massive popularity of MOOCs is the ability for students to access world-class learning materials and knowledge, with minimal or no fees incurred. Some MOOCs even allow students to receive credits upon successful completion of the course. For example, edX, another pioneer MOOC provider with over 300 courses offered, is collaborating with universities such as Harvard and MIT to offer certificates for selected courses to anyone who completes the programmes.

How can MOOCs benefit the Malaysian higher education system?

The Malaysian higher education system aspires to increase student enrolment, raise the quality of instruction, internationalise HLIs and to do all this in a cost efficient manner. MOOCs can help address all these aspirations.

Firstly, MOOCs can reach a much broader audience. Students – of all ages anywhere in the country – via an internet connection will now be able to access high quality courses even if they are not currently enrolled at a HLI. With the rollout of the National Broadband Plan, this means that students anywhere in Malaysia will have equal access to international content and instruction.

Leveraging MOOCs will allow Malaysian HLIs to quickly augment their programmes with international course content and/or add new courses which they could not previously provide. Further, HLIs can use MOOCs to build their global brand and visibility. Such international exposure will also reinforce and support the continuous raising of quality standards.

Lastly, leveraging MOOCs will allow HLIs to decrease the cost of creating and delivering programmes without compromising quality. For example, Georgia Institute of Technology is offering a new master's degree in computer science, delivered through a series of MOOCs, at a cost four times lower than the school's traditional on-campus degree.

How can MOOCs be used?

To effect a transformation, much more is required than simply allowing students to sign up for existing MOOCs, or even putting some of Malaysia's own courses online. Rather, MOOCs will need to be integrated by "blending" in-person educational experiences with those delivered online. Here are two examples of how this blending could work:

- **Use MOOCs to supplement course content on residential campuses.** This approach makes use of the content and lectures in MOOC courses, but leaves the in-person work of class discussion, coaching, mentoring, assessing student mastery, and issuing credentials to the existing university faculty. A survey of students at Stanford (where this model is prevalent) found that students were able to use their time with faculty for more problem solving discussions. It has also allowed Stanford professors to teach twice the number of students; and
- **Count credit from MOOCs towards existing degree programs.** The State University of New York – a public university system with 64 campuses and 465,000 students – is undergoing an unprecedented transformation to allow students to earn up to a third of their credits for certain degree programmes from MOOCs offered by other HLIs. This effort is bold, but if successful will dramatically transform the ability of students in New York to learn from the best professors and programmes in the world.

Are Malaysian HLIs using MOOCs today?

Malaysian HLIs have already started developing and launching their own MOOCs. In September 2014, the Ministry launched four first year undergraduate common compulsory courses offered by UKM, UPM, UiTM, and UNIMAS using the MOOCs concept. These undergraduate courses bring together all first-year students from 20 Malaysian universities on a single platform. This effort was the first of its kind in the world, and marks the first foray of such scale by Malaysian public universities into MOOCs.

Initiative implementation roadmap

The strategies and initiatives within this Shift have been carefully sequenced across three waves to avoid overtaxing the system, and to ensure that each successive wave builds on the foundations laid previously. The planning, execution and monitoring of the implementation process will be conducted according to the proposed roadmap shown in the following Exhibit 9-2.

EXHIBIT 9-2

	Wave 1 (2015)	Wave 2 (2016-2020)	Wave 3 (2021-2025)
A Strategy A Improving support for GOL ecosystem	<ul style="list-style-type: none"> Review and refine priorities for cyber infrastructure development (including MOOC requirements); Design and launch HLI-driven, "flagship" MOOCs in areas of distinctiveness; Establish training programmes at AKEPT on MOOCs; and Develop guidelines for training lecturers and support staff at HLIs. 	<ul style="list-style-type: none"> Address priority infrastructure issues for HLIs (e.g., bandwidth, authoring tools, platforms, devices, and equipment); Expand offering of MOOCs in areas of distinctiveness; Promote Malaysian MOOCs to achieve target of having 5 HLIs in top Webometric rankings; and Build capacity for lecturers and support staff to enable development of MOOCs. 	<ul style="list-style-type: none"> Review progress of existing initiatives and introduce new interventions where needed to further boost efficiency and effectiveness.
B Strategy B Establishing GOL administrative structure	<ul style="list-style-type: none"> Evaluate value of establishing a National e-Learning Centre; Jumpstart development of training programmes to build capacity and capabilities of HLI staff to develop MOOCs and apply blended learning models; and Revise DePAN to incorporate MOOCs initiatives and set target of having 70% of courses using blended learning models. 	<ul style="list-style-type: none"> Continue enhancing pedagogical approaches and processes for developing online-learning content through cross-stakeholder partnerships; and Intensify MOOCs offerings at the rate of 15 courses per institution. 	<ul style="list-style-type: none"> Review progress of existing initiatives and introduce new interventions where needed to further boost efficiency and effectiveness.
C Strategy C Enabling global prominence through GOL	<ul style="list-style-type: none"> Develop and update guidelines for curriculum revision and credit transfer mechanisms, in consultation with MQA; and Identify expertise and niche areas for global MOOC offerings; and Identify platform partners. 	<ul style="list-style-type: none"> Promote wide adoption of GOL in Malaysian HLIs and among the members of the public for lifelong learning; and Ensure GOL programmes receive the appropriate recognitions, including credit transfer. 	<ul style="list-style-type: none"> Review progress of existing initiatives and introduce new interventions where needed to further boost efficiency and effectiveness.

Conclusion

The increase in internet accessibility, coupled with the rise of “digital natives” has made online learning an essential mode of learning the world over. Online learning provides opportunities for Malaysia to increase its global visibility, especially in niche areas where Malaysia has distinctive edge. In addition, GOL allows the widening of access to higher education, promotes lifelong learning among Malaysians, increases cost effectiveness in course delivery, and enhances the quality of teaching and learning. In order to capture the full potential of GOL, the Ministry will work with HLIs to build the capabilities of the academic community, establish a national e-learning platform to spearhead content development and enhance existing administrative structures.

Tracking measures

The Ministry will track the progress and impact of this Shift against a set of outcome-based measures. These measures are not intended to be exhaustive and may evolve over time. Targets will also be set for each measure on an annual basis.

- Number of universities involved in **MOOCs common course delivery**;
- Number of Malaysian HLIs in **Top 200 Webometrics rankings**;
- Number of **students (Malaysian and international) enrolled** in Malaysian MOOCs; and
- Percentage of **blended learning** courses offered by HLIs.

Shift

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10



Transformed Higher Education Delivery

The Malaysian higher education system needs to undergo comprehensive transformation if it is to rise to meet the nation's ambitious vision and aspirations. The transformation is envisioned to occur over a period of 11 years, and is a process of great complexity in both breadth and depth. A well-conceived plan is only the starting point. The Malaysia Education Blueprint 2015-2025 (Higher Education) or the MEB (HE) will not succeed without effective implementation. The Ministry of Education (the Ministry) also cannot successfully deliver without the commitment and collaboration of relevant stakeholders and higher learning institutions (HLIs).

Higher education delivery encompasses all facets of the Ministry of Education functions, from formulating policies and regulations, to implementing programmes and overseeing higher education institutions. The organisational structure operating model, key processes, and internal capabilities of the Ministry all impact the efficiency and effectiveness of delivery.

This chapter highlights how the Ministry plans to deliver differently. The strategies and initiatives outlined here are intended to ensure that the various shifts and outcomes defined in the MEB (HE) can actually be realised. This includes redefining the role and organisation of the Ministry, harmonising across public and private institutions, strengthening quality assurance, enhancing delivery capabilities within the Ministry, and enhancing critical student-facing central platforms such as student admissions.

Why it matters

In order to lead the transformation of the higher education system, the Ministry must role model the ability to learn, relearn, and unlearn existing processes, skills, and behaviours.

In the public consultation process during the development of the MEB (HE), many stakeholders stressed the need for stronger delivery capacity and capabilities. They also emphasised the importance of the Ministry focusing on implementation and not just on planning and policymaking.

Change starts with the Ministry

The higher education system transformation will not be successful without transformation of HLIs, and without transformation of the Ministry itself. Change must begin at the Ministry. The rapid increase in scale and the inherent international nature of the education sector requires an agile and adaptable Ministry with a diverse, yet specialised range of skills, and supported by best-in-class talent, systems, and processes. In order to lead the transformation of the higher education system, the Ministry must role model the ability to learn, relearn and unlearn existing processes, skills and behaviours.

Greater complexity in the higher education system

The higher education sector has seen considerable expansion over the past several years. There are now more than 650 HLIs in Malaysia, comprising both public and private institutions with different operating models, contexts and challenges. The expansion is encouraging, brought on as a result of joint public and private sector efforts to meet changes in educational and socio-economic needs of Malaysians. However, the increase in complexity and scale of institutions and student numbers requires a more harmonised (rather than differentiated) approach to regulation for public and for private HLIs.

New focused role of the Ministry

The Ministry will adopt a more focused role in the higher education system, moving away from a “tight controller” role with broad administrative and operational oversight over public HLIs, to that of a “regulator and policymaker” role. This change in the relationship and interactions of the Ministry with public HLIs is consistent with the push for greater autonomy for HLIs based on their readiness levels. This provides an opportunity for the Ministry to review and restructure its internal functions, resources and processes to become a more effective regulator and catalyst for the higher education sector in Malaysia.

Right levers for successful transformation

Research indicates that only a third of large-scale transformation programmes succeed in delivering and sustaining results¹. Internationally, education system reforms typically do not fail because of a lack of resources or poor planning. They fail for common reasons such as insufficient will, time, and commitment from political and Ministry leaders; inability to stay the course under intense challenges from those opposed to change; paralysis in the face of polarising debates; resistance to change amongst stakeholders and institutions; or talent and capacity gaps within the Ministry.

¹ Keller, S & Price, C (2011). Beyond Performance, How Great Organisations Build Competitive Advantage. New Jersey: John Wiley & Sons, Inc.

Where we are

The Malaysian higher education system needs to evolve more rapidly, both in response to global trends as well as in preparation for further disruptions. To that end, the 10 shifts in the MEB (HE) will generate major changes in the way the system operates. The importance of the delivery system was already highlighted in the National Higher Education Strategic Plan, or *Pelan Strategik Pengajian Tinggi Negara (PSPTN)*, in “Thrust 7: Reinforcing the Delivery Systems of the Ministry of Education”. Whilst the foundations for an improved delivery system have been laid during the PSPTN implementation, new developments provide opportunities for the Ministry to further adapt and strengthen its delivery approach to spearhead the transformation of the Malaysian higher education system.

The higher education system development journey

The Malaysian higher education system has come a long way with significant progress since the launch of PSPTN in 2007. Major developments in the higher education system include the increasing ‘democratisation’ of the higher education sector, rapid expansion of the private education sector, establishment of international branch campuses, enhanced cross-border mobility of students and faculty, as well as greater research productivity from stronger Malaysian Research Universities (MRU) and academic staff. Thrust 7 of the PSPTN also provided the foundation for the Ministry to strengthen its internal processes and build delivery capabilities.

Importance of keeping pace with global trends

Globalisation and technology have completely transformed sectors such as finance, services and telecommunications. The higher education sector will likely face the same transformation, and is already experiencing disruption from new models such as Massive Open Online Courses (MOOCs). Competition among universities is intensifying internationally for students, for staff, and for resources. New technologies are creating new opportunities for

students to access higher education, and to close the equity gap for disadvantaged communities. The Ministry recognises the need for radical change, rather than incremental steps in order to meet the challenges of higher education in the 21st century. The traditional model of a bricks-and-mortar comprehensive university may no longer be the most effective way to deliver education.

Opportunities arising from the Ministry merger

The merging of the Ministry of Education and the Ministry of Higher Education in 2013 increased the scale, scope and reach of the combined organisation. The Ministry now accounts for around a quarter of the annual national budget. The merger also gives rise to important opportunities to create more seamless education system pathways from preschool to post-secondary all the way to tertiary education, to lifelong learning and beyond. This requires close alignment of the functions, strategies and initiatives across basic education and higher education. There are also significant opportunities for enhancing services for students with closer integration in areas such as teacher training, curriculum design, technical or vocational training, talent mobility, as well as improved efficiency from shared support or administrative services.

New major shifts in the MEB (HE)

The 7 Thrusts under the PSPTN have now evolved into the 10 Shifts under the MEB (HE). Some of these Shifts represent a renewed and intensified focus in the MEB (HE) on areas such as talent excellence, the innovation ecosystem, lifelong learning, internationalisation and the delivery system. Some Shifts represent additional or new focus areas such as financial sustainability, empowered governance and quality technical vocational education and training (TVET). Building on the 7 Thrusts in the PSPTN, the 10 Shifts outlined in this blueprint are anchored on outcomes, and will require major changes in how the higher education delivery system functions.

Objectives

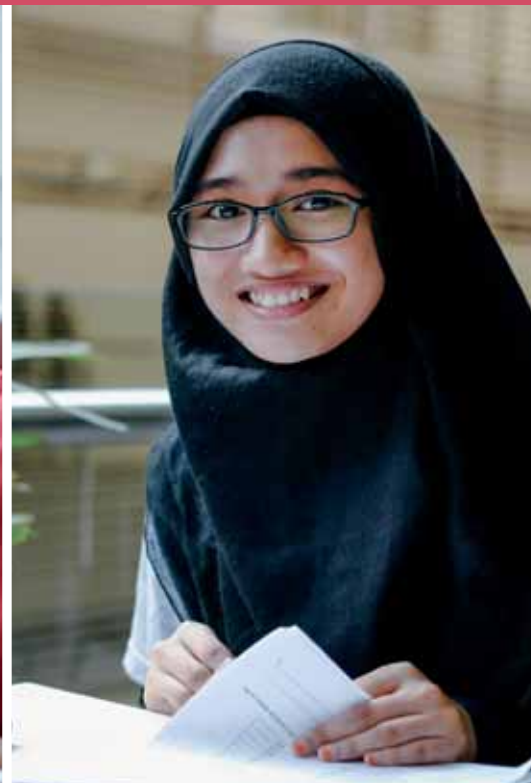
The Ministry aims to transform the higher education system beginning with the transformation of the Ministry itself. The Ministry seeks to catalyse transformation among private and public HLIs. The Ministry will lead the way in civil service transformation, to innovate on best practices and new processes. It will aspire to serve as a model Ministry in responsive and transparent delivery, with effectiveness and efficiency levels comparable to that of the private sector.



Principles

Four principles will guide the Ministry in the transformation of the overall delivery system for higher education in Malaysia:

- **Focus on outcomes and performance** — The Ministry will focus on ensuring delivery of outcomes and performance, beyond just inputs, resources and processes. This is to ensure greater return on investment as well as faster tangible results to the *rakyat*;
- **Involvement of relevant stakeholders** — The Ministry will continue to communicate and to engage extensively with stakeholders throughout the implementation of the MEB (HE), including students, parents, the academic community, Ministry staff, and employers;
- **Greater transparency for greater accountability** — Stakeholders will have access to regular and transparent information about progress against the MEB (HE). This will lead to more accountable and more responsive implementation; and
- **Clarity in roles and expectations** — The success of the MEB (HE) requires all relevant parties to contribute, to play their respective roles and to deliver on their commitments, including the Ministry, HLI leadership, university boards, and relevant government agencies.



Strategies and initiatives

The strategies and initiatives outlined in this chapter are intended to enhance the delivery capacity and capabilities of the Ministry to deliver better, faster, and more sustainable outcomes for students and stakeholders. There are five related strategies, each with its own corresponding initiatives:

Strategy A: Transforming the Ministry of Education.

The Ministry will continue to create the policy framework that guides the higher education system. It will move towards a regulatory and policymaking role, and will focus on its “core business” and core functions. This will involve reviewing the organisational structure and operating model of the Ministry, simplifying and integrating current processes, as well as removing duplication and inefficiencies to be more focused on outcomes and performance.

Strategy B: Harmonising across public and private institutions.

Both public and private HLIs are equally important in delivering outcomes in higher education and the Ministry will hold them to equivalent performance and academic standards. With more complementary and consistent policies, there will be greater opportunities for academic or talent mobility, partnerships and collaboration between private and public HLIs. Such partnerships will be crucial in continuing to drive growth in the higher education sector.



Strategy C: Enhancing the delivery approach for the MEB (HE).

The Ministry will draw lessons from successful and similar large-scale transformation programmes, such as the GLC Transformation Programme in Malaysia. The Ministry will adopt new delivery models such as the delivery unit approach, and seek to codify and disseminate best practices in critical areas to support transformation programmes at individual public and private HLIs.

Strategy D: Streamlining and aligning HLI performance management and quality assurance.

The functions and processes of the Malaysian Qualifications Agency (MQA) will continue to be enhanced in-line with international frameworks, global best practices and expectations. Clear, well-defined, transparent, fair criteria, and standards will be used to evaluate both the internal and external practices

of all HLIs in Malaysia, guided by the Malaysian Qualification Framework (MQF). The streamlining, simplification, and continual upgrading of the quality assurance framework and related ratings instruments will be an ongoing priority for the Ministry.

Strategy E: Restructuring critical front-line services.

Students are at the centre of the transformation programme outlined in the MEB (HE). As such, the Ministry will place particular emphasis on critical front-line services that are student-facing, represent important touch-points, and have direct impact on students. This includes enhancing the student admissions process and systems, as well as improving how strategic communications and stakeholder engagement activities are conducted by the Ministry.



Initiative A1

Restructuring the Ministry organisation to focus on core functions

The Ministry will review and redesign its internal organisational structure to better align with its more focused role as a regulator and policymaker for the higher education system, instead of as a tight controller with extensive administrative and operational oversight of HLIs (see Box 10-1). The restructuring effort will also establish closer integration between the education and higher education sectors within the Ministry. The new organisational structure will draw on practices from other education systems globally, and will be tailored for the Malaysian context and requirements. The Ministry will also enhance its talent management framework, including effective succession planning for pivotal roles to ensure implementation can be sustained. Core functions and processes will also be reviewed and revamped for greater simplicity, transparency, and avoidance of duplication, especially in approvals, audit, and reporting procedures.

Initiative B1

Ensuring consistent performance standards and regulations across public and private HLIs

The Ministry will move towards applying equivalent standards and expectations to both public and private HLIs, on key dimensions such as academic standards, curriculum quality and student intake. Greater harmonisation of standards will also allow the Ministry to explore more seat-buying programmes from private HLIs in critical professional courses such as dentistry, medicine, pharmacy and geology, especially from the private HLIs that continue to raise quality standards and improve outcomes. The Ministry will also review and streamline existing regulations and policies for private HLIs where there are currently differentiated requirements, such as in self-accreditation, new course approvals, and the introduction of alternative or online programmes.

Box 10-1

The Higher Education Sector in an integrated Ministry of Education

The new **organisational structure** of the Higher Education Sector within the integrated Ministry of Education will be more:

- **Dynamic and efficient** with clear demarcation of roles and accountabilities;
- **Conducive and meritocratic** to attract and retain talent within the Ministry in the right positions with the right knowledge, expertise and skills; and
- **Agile and responsive**, especially in stakeholder or client-facing functions.

The **core functions** of the restructured of Higher Education Sector will include:

- **Defining higher education policies** — The Ministry will continue to create and refine the policy framework that guides the higher education system;
- **Establishing the ecosystem and infrastructure** — The Ministry will be responsible for establishing and enhancing the support systems required for the smooth functioning of the overall higher education system, including student admissions and international student services;

- **Setting and monitoring standards** — The Ministry will regulate the higher education system and HLIs to ensure consistent and high quality standards. It will be responsible for the licensing of HLIs, and for overseeing quality assurance and accreditation; and
- **Implementing strategic programmes** — The Ministry will drive specific programmes from time-to-time in order to catalyse the higher education system, in collaboration with stakeholders and other government agencies.

The **key processes** within the Higher Education Sector will be enhanced with the removal of redundancies. The Ministry will focus on outcome-based performance management. In parallel, the Ministry will encourage HLIs to strengthen their internal organisation and processes consistent with the shift towards empowered governance to take on more responsibilities, such as industry engagement, entrepreneurship development, and programme management.

Initiative B2

Catalysing public-private partnerships and talent mobility

Cross-fertilisation of knowledge, expertise and best practices are critical for a well-functioning higher education sector. The Ministry encourages greater collaboration and partnerships between public and private HLIs across a range of activities, including in research, teaching, sharing of resources and facilities. The Ministry will continue to facilitate and support different models of public-private partnerships led by HLIs, as well as different forms of mobility or exchange programmes for students and academic staff between public and private HLIs.

Initiative C1

Delivery Unit to drive MEB (HE) implementation

International experience shows that managing complex transformation programmes with the necessary rigour and discipline requires a small and high-powered delivery unit dedicated to supporting the Ministry's leadership. Its ability to function effectively lies in the design, organisation, autonomy, and development of the entity. Such an entity will be responsible for monitoring progress, problem-solving, escalating issues for decision-making and managing communication about the higher education transformation effort. The Delivery Unit will be responsible for driving the delivery of priority MEB (HE) initiatives, with direct access to the senior leadership of the Ministry and the Minister (see Box 10-2).

Box 10-2

Role of the Delivery Unit in driving delivery of MEB (HE) initiatives

There are four key roles that the Delivery Unit will undertake:

- **Programme manage all MEB (HE) initiatives.** This entails ensuring that action plans are prepared (at Ministry and HLI level) and the required personnel and budget secured for initiatives within this MEB (HE). KPIs will be established for all initiatives and progress against KPIs for priority initiatives will be tracked and regular updates will be provided to Ministry leadership. The unit will act as an interface between Ministry leadership and initiative leaders. Implementation issues will be de-bottlenecked through timely escalation to Ministry leadership.
- **Lead cross-functional, multi-agency teams for priority initiatives.** This will require the detailing of the design of the initiative and securing the necessary personnel and budgets. The unit will drive and monitor implementation, making ongoing adjustments to design based on real time feedback, and de-bottlenecking implementation issues. The network of relevant public and private stakeholders will need to be proactively managed and regular updates will be provided to Ministry leadership and other stakeholders as needed, for example, via Steering Committee meetings.
- **Support public and other stakeholder engagement efforts.** Successful transformation relies on keeping the system and the public engaged through frequent public consultations, engagements,

and dialogues. The Ministry is committed to giving stakeholders timely information on the rationale for change, the vision, priorities, setbacks met along the way, and progress on the MEB (HE)'s initiatives. This information will be delivered through various media channels, including the press, the Ministry's website and social media. The Ministry will also set up two-way communication channels that encourage dialogue on the MEB (HE)'s execution and that enable the Ministry to make adjustments, as indicated.

- **Publishing targets, and regular performance reports.** The Delivery Unit will facilitate mid-year and end-of-year assessment of progress to inform Ministry leadership decision making. In addition, the Ministry will publish performance results annually as part of its annual report so the public can track progress on the execution of the MEB (HE).

Composition of the Delivery Unit

The composition of the Delivery Unit is critical to its success. The team will comprise highly skilled talent with a strong track record in problem-solving, delivery, and stakeholder engagement. The unit will be small, flexible, responsive, and have a cohesive performance culture. The leadership and delivery unit staff will be dedicated to delivery. Delivery unit staff will be highly talented and qualified staff from inside or outside the system.

Initiative C2

Launching the “University Transformation Programme”

There are unique factors to consider when designing the implementation approach of the MEB (HE). Unlike in preschool to post-secondary education where the Ministry also plays an operator role, the transformation of the higher education sector has to be driven by HLIs and not directly by the Ministry. However, these HLIs have differing starting points and have different strengths and weaknesses. Consequently, implementation needs to be structured in a modular manner, so that HLIs can adopt the elements that are best suited to their situation, and implement at their own pace. The Ministry also needs to provide sufficient guidance and best practices to create the right ecosystem to support and provide oversight to HLIs. As the relationship between the Ministry and HLIs is analogous to that of government-linked investment companies (GLICs) and government-linked companies (GLCs), elements from the GLC Transformation (GLCT) programme will be adopted. Exhibit 10-1 highlights the key success factors from GLCT.

The Ministry will collaborate with HLIs to identify and codify best practices and tools based on specific initiatives in the MEB (HE) (see Box 10-3). This will be in the form of “playbooks” on critical topics which should be applicable to both public and private HLIs. The Ministry expects public universities to implement the practices in the “playbooks” as part of their own university transformation programmes. Private HLIs are also expected to be able to benefit from the “playbooks” and are encouraged to adopt them as well.

Exhibit 10-1

Successful elements of GLC Transformation programme



Box 10-3

University transformation in action

The transformation of HLIs is a Ministry and national priority. The Ministry expects that the University Transformation Programme will be a medium to long term journey with full benefits realised over the long run. Although the transformation journey will focus on long-term, sustainable results, it is expected that HLIs can also derive significant impact in the short term.

Best practice guidelines and tools will be codified and developed for dissemination and implementation across HLIs. These “playbooks” will offer practical guidance to support HLIs in implementing their own transformation programmes or in enhancing their existing practices in critical areas.

An initial set of six initiatives have been identified as important levers of change and will have a large potential impact on the performance of HLIs:

- Enhancing governance and board effectiveness of HLIs;
- Strengthening performance management of HLIs;
- Improving degree productivity and cost efficiency of HLIs;
- Establishing alternative income sources and endowment funds;
- Achieving transparency and accountability in financial reporting of HLIs; and
- Strengthening career pathways and leadership development.

These initial “playbooks” are neither silver bullets nor all-encompassing but are intended to provide support for HLIs as they tailor implementation for their own contexts, challenges and focus areas.

Initiative D1

Enhancing MQA processes and the quality assurance framework

The MQA will continuously evaluate and upgrade the MQF and quality assurance systems in accordance with national needs and in alignment with global best practices. In addition, the MQF will be revised to facilitate greater harmonisation with the TVET sector, as well as to align with the ASEAN Qualifications Reference Framework (AQRF). The Ministry is also committed to working with MQA to upgrade, streamline, and accelerate the existing quality assurance, accreditation, and audit processes. Consistent with the shift towards empowered governance for HLIs, the Ministry and MQA will endeavour to tailor quality assurance approaches according to the profiles, track record, and capabilities of each HLI.

Initiative D2

Improving and integrating institutional ratings systems

The Ministry has introduced several ratings instruments for different types of institutions, such as Malaysia Research Assessment (MyRA) for research universities, SETARA for both public and private universities and university colleges, MyQUEST for private colleges, PolyRate for polytechnics and MySpeKK for community colleges. The Ministry has gathered feedback from the initial implementation of the ratings systems, and will continue to refine and improve the effectiveness or relevance of these instruments, as well as to simplify where necessary. The Ministry will integrate the upgraded ratings instruments with performance management and incentive programmes, such as linking access to funding with the ratings of each HLI.

Initiative E1

Transforming student admissions processes

The Student Admissions Management Division (SAMD), is currently responsible for co-ordinating admission to public universities. This division, formerly known as *Unit Pusat Universiti (UPU)*, acts as a clearinghouse for public HLI applications, and facilitates the placement of students in the courses they choose. Some universities run independent admissions processes, such as *Universiti Malaya (UM)* and *Universiti Sains Malaysia (USM)*. The Ministry recognises that the student applications and admissions process is one of the most critical student-facing processes. The Ministry will explore and evaluate enhancements to SAMD, such as changes to the current application approach, the creation of a central information and careers portal for students, as well as the corporatisation of SAMD (see Box 10-4).

Box 10-4

Overview of the Student Admissions Management Division (SAMD)

Over 74,000 applications were processed by SAMD in the 2014/2015 academic session, an increase of 7.8% over the previous year. Moving forward, there are three focus areas that SAMD will evaluate and explore in order to improve its services for students:

- **Enhancements to the current application and matching system** to improve efficiency and maximise student placements onto their list of preferred programmes, such as introducing the Single-Window Application Management System for HLIs. These enhancements could also include new mechanisms for programme or course selection, refinements to the bidding algorithm, and clearer communications to prospective students;
- **Improved support for students in preparing applications** by upgrading the central information portal to help students make better informed decisions, which will lead to more successful applications. The enhanced portal could contain information on individual universities (including rankings, ratings, admissions, and employment statistics), courses (entry requirements, popularity, and admission criteria) and career pathways (average salaries, career opportunities). The Ministry will also explore closer integration and partnerships with other major career information portals such as *iwant2b*; and
- **Corporatisation of SAMD** in consultation with stakeholders and HLIs to better understand requirements and demand for its services. The objective would be to improve effectiveness in execution, potentially expand the provision of services to private HLIs, and attract, incentivise and retain required talent.

Box 10-5

Private HLIs in the MEB (HE)

Private HLIs are important and integral to the Malaysian higher education system. The MEB (HE) not only envisions a harmonised higher education regulatory framework for both public and private HLIs, but many strategies and initiatives in the MEB (HE) are also highly relevant and applicable to private HLIs, for example:

- **Supporting the expansion in higher education** enrolment to ensure all eligible Malaysian students have access to higher education, especially via high quality undergraduate programmes at private HLIs;
- **Reviewing regulations and guidelines** to facilitate a business-friendly ecosystem for private HLIs, with greater focus on outcomes, performance and quality standards;
- **Strengthening governance effectiveness of private HLIs**, including greater co-regulation and self-regulation depending on readiness and capability levels;
- **Expanding partnerships of private HLIs** with industry, with the wider community, and with public HLIs; and
- **Enhancing Malaysia as an international education hub** by creating a conducive environment with support from private HLIs in promoting the integration, safety, security and wellbeing of international students.

Box 10-6

Streamlining processes affecting private HLIs

During the MEB (HE) development process, the Ministry received extensive feedback on the regulations, requirements and processes affecting private HLIs. In response to this feedback, the Ministry is conducting further consultation to explore and evaluate the suggested changes. While not all enhancements will happen immediately, the Ministry will continue to engage with private HLIs and stakeholders to identify and implement potential improvements.

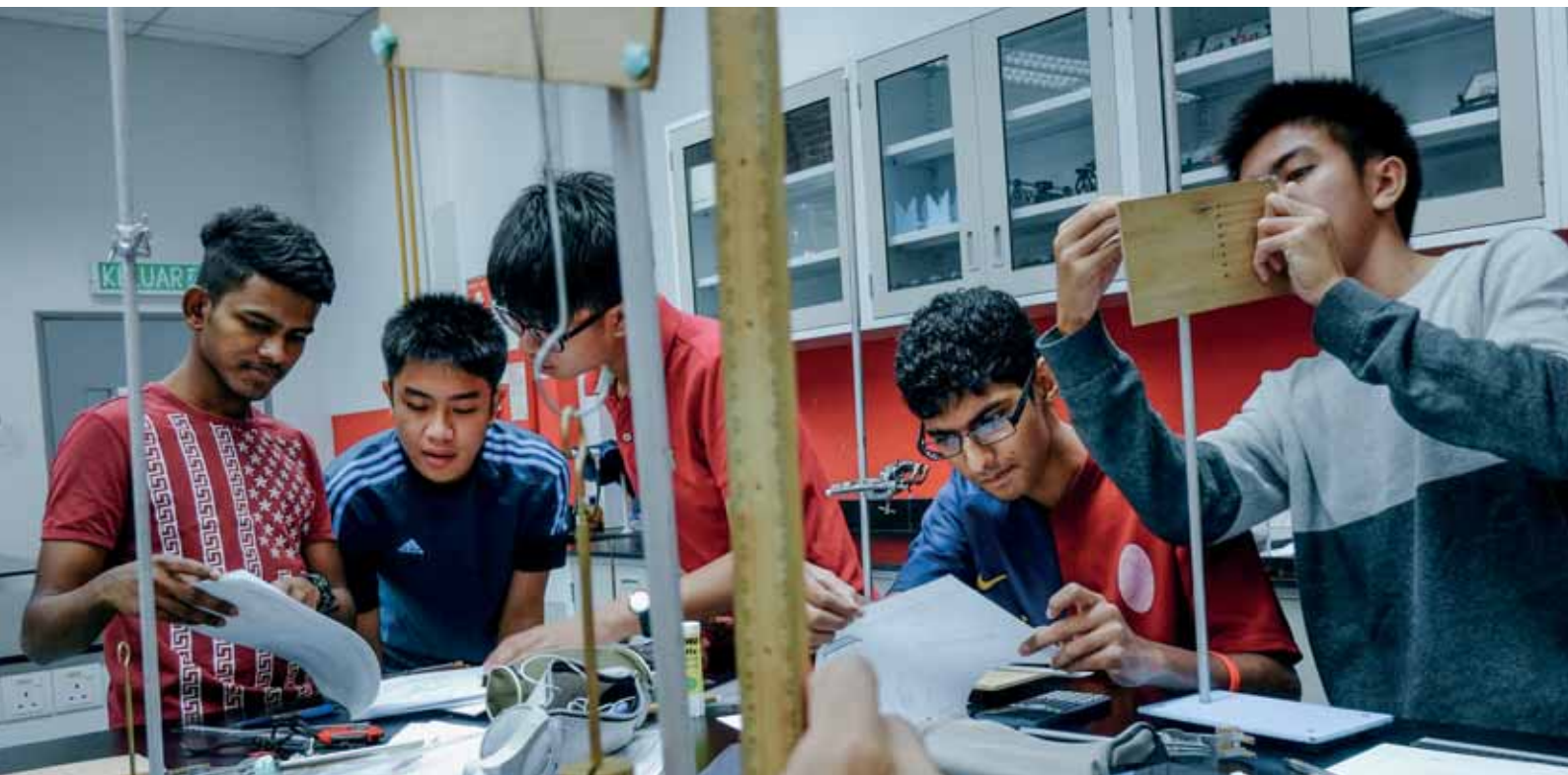
Feedback Received	Potential Areas for Consideration
Approval periods: Private HLIs experience waiting time for course approvals and renewals, including for institutions with self-accrediting status	Introduce a differentiated 'fast track' approach for private HLIs with self-accrediting status for faster turnaround times
Self-accreditation and internal reviews: Private HLIs with self-accrediting status experience waiting time for MQA sign-off on the results of their internal review	Review sign-off process for private HLIs with self-accreditation status, in consultation with relevant agencies and stakeholders, such as professional bodies
Clarity on autonomy: Private HLIs would benefit from more clarity from relevant agencies on areas where self-accrediting institutions have flexibility	Review existing guidelines and clarify any grey areas for private HLIs
Renewals of licenses, permits, approvals: There are opportunities for improvement in documentation submission requirements for renewal processes and institutional registration	Review documentation requirements and processes to be more efficient and customer-friendly
Documentation focused on inputs: For example, applications to recruit international students can be document intensive and focused on inputs	Approval for initial applications to focus on ensuring a conducive environment for students , and for subsequent renewals to focus on ensuring international student outcomes
Controls on fees: Private HLIs need to secure permission each time they wish to raise the cap on fee levels for each individual course.	Continue to ensure accessibility and affordability of higher education for all eligible Malaysians, with more flexibility in fee setting for private HLIs

Initiative E2 Improving end-to-end experience for international students

The Ministry recognises the importance of international students to the higher education sector in Malaysia. The Ministry, together with its related agencies will regularly review and evaluate critical student-facing processes that affect international students. The Ministry will co-ordinate with relevant agencies to improve the end-to-end experience of an international student by focusing on major touchpoints, including facilitating administrative processes, safeguarding welfare, improving information availability, accelerating approval processes and improving alumni relations.

Initiative E3 Strengthening strategic communications and stakeholder engagement

The Ministry recognises that the success or failure of higher education transformation hinges on getting the buy-in of stakeholders. To that end, the Ministry will keep stakeholders and the public engaged through public consultation, engagement and dialogue where appropriate. The Ministry will consistently communicate to the public the rationale for the transformations outlined in the MEB (HE), the aspirations and priorities, as well as progress and results. Much of this will take place over multiple media channels such as the press and the internet. The Ministry will explore strengthening its strategic communications and stakeholder engagement functions, to keep the public better informed and to allow the Ministry to be more responsive in adapting to feedback.



Initiative implementation roadmap

The strategies and initiatives within this Shift have been carefully sequenced across three waves to avoid overtaxing the system, and to ensure that each successive wave builds on the foundations laid previously. The planning, execution and monitoring of the implementation process will be conducted according to the proposed roadmap shown in the following Exhibit 10-1.

Exhibit 10-1

	Wave 1 (2015)	Wave 2 (2016-2020)	Wave 3 (2021-2025)
A Strategy A Transforming the Ministry of Education	<ul style="list-style-type: none"> Complete redesign of Ministry organisational structure to focus on core functions and operating model with closer integration of basic and higher education sectors. 	<ul style="list-style-type: none"> Implement phased restructuring of Ministry organisation, including succession planning and new talent management framework. Review and revamp core functions and processes. 	<ul style="list-style-type: none"> Complete transition to focused regulator and policymaker role of Ministry in higher education.
B Strategy B Harmonising across public and private institutions	<ul style="list-style-type: none"> Complete review and consultation on improvement areas in policies and regulations affecting private HLIs (for example, course approvals and self-accreditation). 	<ul style="list-style-type: none"> Explore seat-buying mechanism from private HLIs in specific courses. Streamline regulations and policies for private HLIs. Facilitate PPPs and mobility programmes led by HLIs. 	<ul style="list-style-type: none"> Achieve harmonisation in higher education system across private and public HLIs on regulations, standards, and expectations.
C Strategy C Enhancing the delivery approach for the MEB (HE)	<ul style="list-style-type: none"> Codify and launch 1st set of "playbooks" with best practices to support HLI transformation. Prepare annual reports on MEB (HE) progress and outcomes. 	<ul style="list-style-type: none"> HLIs to launch tailored University Transformation Programmes. Codify 2nd set of "playbooks". Adopt Delivery Unit approach to drive delivery of MEB (HE). 	<ul style="list-style-type: none"> HLIs to deliver results from University Transformation Programmes, with several HLIs achieving regional or global prominence
D Strategy D Streamlining and aligning HLI performance mgt and quality assurance	<ul style="list-style-type: none"> Initiate review on improvement areas in MQA processes, quality assurance framework and institutional ratings system in consultation with stakeholders. 	<ul style="list-style-type: none"> Improve and integrate institutional ratings systems for HLIs. Enhance MQA processes and quality assurance framework. 	<ul style="list-style-type: none"> Ensure ongoing improvement and refinement to quality assurance and institutional ratings systems and framework.
E Strategy E Restructuring critical front line services	<ul style="list-style-type: none"> Review and introduce enhancements to current application and matching system for public HLIs. Review improvement areas for end-to-end foreign student experience. 	<ul style="list-style-type: none"> Evaluate and implement enhancements to SAMD, for example, corporatisation, and central info portal. Strengthen Ministry strategic communications function and conduct ongoing stakeholder consultation 	<ul style="list-style-type: none"> Ensure ongoing improvement and refinement to Malaysian and international student experiences. Enhance stakeholder engagement as a distinctive Ministry core function.

Conclusion

The shifts outlined in the MEB (HE) are ambitious and geared towards delivering a comprehensive and necessary transformation of the higher education system. It is essential that the Ministry takes the lead in this transformation by role modeling the transformation itself. By leading the way, the Ministry can be a catalyst for transformation not only among private and public HLIs, but the entire Malaysian civil service. These changes—sequenced over three waves—aim to build successively on one another as the system's capacity and capabilities, and the readiness levels of HLIs improve. The first wave will focus on establishing the building blocks for the transformation; the second wave will introduce more structural improvements to accelerate the pace of change; and finally, the third wave will strengthen the global prominence of Malaysia's higher education system. It is only through the collective efforts of every single stakeholder that the higher education system can be transformed to prepare Malaysians for the challenges and opportunities of an ever-changing world.

Tracking measures

The Ministry will track the progress and impact of this Shift against a set of outcome-based measures. These measures are not intended to be exhaustive and may evolve over time. Targets will also be set for each measure on an annual basis.

- **Completed redesign of new organisational structure** and operating model for the integrated Ministry;
- **Release of annual reports** on progress and outcomes of MEB (HE);
- **Launch of “playbooks”** to support HLIs in their transformation programmes;
- **Launch of university transformation programmes** by HLIs with institutional outcomes delivered; and
- **Completed enhancements to institutional ratings** systems for public and private HLIs.



Appendices

- **Glossary**
- **MEB (HE) Governance Structure**
- **Acknowledgements**

Glossary

ACIF	ASEAN Community in Figures.	DVC	Deputy Vice-Chancellor.
AEC	ASEAN Economic Community.	DVM	Diploma Vokasional Malaysia.
AeU	Asia e University.	E&E	Electrical & Electronics.
AIM	<i>Agensi Inovasi Malaysia</i> or <i>Malaysian Innovation Agency</i> .	EFA	Education for all.
AKEPT	<i>Akademi Kepimpinan Pendidikan Tinggi</i> or Higher Education Leadership Academy.	EMGS	Education Malaysia Global Services.
APACC	Asia Pacific Accreditation and Certification Commission.	EPU	Economic Planning Unit.
APAIE	Asia Pacific Association for International Education.	ESD	Education for sustainable development.
APEL	Accreditation of Prior Experiential Learning.	ETP	Economic Transformation Programme.
APEX	Accelerated Programme for Excellence.	FTE	Full-time equivalent.
AQRF	ASEAN Qualifications Reference Framework.	GDP	Gross domestic product.
ARWU	Academic Ranking of World Universities.	GEM	Global Entrepreneurship Monitor.
ASEAN	Association of Southeast Asian Nations.	GERD	Gross domestic expenditure on R&D.
BR1M	<i>Bantuan Rakyat 1 Malaysia</i> or 1Malaysia People's Aid Scheme.	GLCs	Government-linked companies.
BTEC	Business and Technology Education Council.	GLCT	Government-linked companies transformation programme.
CAGR	Compounded annual growth rate.	GLICs	Government-linked investment companies.
CCRIS	Central Credit Reference Information System.	GNI	Gross national income.
CEO	Chief Executive Officer.	GOL	Globalised Online Learning
CFO	Chief Financial Officer.	GPA	Grade point average.
CIDB	Construction Industry Development Board Malaysia.	GSIAC	Global Science and Innovation Advisory Council.
CPD	Continuing Professional Development.	GTP	Government Transformation Programme.
CREST	Collaborative Research in Science, Engineering & Technology.	HEA	Higher Education Academy.
CTE	Career and technical education.	HICoE	Higher Institution Centre of Excellence.
CUGG	Code of University Good Governance.	HIEP	High Impact Educational Practices.
DE	Development expenditure.	HIR	High Impact Research Programme.
DePAN	<i>Dasar e-Pembelajaran Negara</i> or National e-Learning Policy.	HLI	Higher learning institution.
DKM	<i>Diploma Kemahiran Malaysia</i> or Malaysian Skills Certificate.	HR	Human resource.
DLKM	<i>Diploma Lanjutan Kemahiran Malaysia</i> or Malaysian Advanced Skills Certificate.	ICOE	Industry Centre of Excellence.
DSD	Department of Skills Development.	ICT	Information and communications technology.
		IIUM	International Islamic University Malaysia.

IMF	International Monetary Fund.
IMP3	Third Industrial Master Plan.
INCEIF	International Centre for Education in Islamic Finance.
IPGM	<i>Institut Pendidikan Guru Malaysia</i>
IPTA	<i>Institut pengajian tinggi awam</i> or public higher learning institution.
IPTS	<i>Institut pengajian tinggi swasta</i> or private higher learning institution.
ISCED	International Standard Classification of Education.
ISI	International Scientific Indexing.
JKPDA	Jawatankuasa Pelaburan Dana Awam or Public Funds Investment Committee.
JPA	<i>Jabatan Perkhidmatan Awam</i> or Public Service Department of Malaysia.
KK	<i>Kolej komuniti</i> or community colleges.
KPI	Key performance indicator.
KTAR	<i>Kolej Universiti Tunku Abdul Rahman.</i>
KTP	Knowledge Transfer Programme.
KUIM	<i>Kolej Universiti Islam Melaka</i> or University College of Islam Melaka.
KUIS	<i>Kolej Universiti Islam Antarabangsa Selangor</i> or International Islamic University College Selangor.
KUISAS	<i>Kolej Universiti Islam Sultan Azlan Shah</i> or Sultan Azlan Shah Islamic University College.
LINUS	Literacy and Numeracy Screening.
LLL	Lifelong Learning.
MAH	Malaysia Association of Hotels.
MAI	Malaysia Automotive Institute.
MARA	<i>Majlis Amanah Rakyat.</i>
MASB	Malaysian Accounting Standard Board.
MBMMBI	<i>Memartabatkan Bahasa Melayu Memperkukuhkan Bahasa Inggeris</i> or Upholding Bahasa Melayu Strengthening the English Language.
MCC	Malaysian Competency Certificate.
MEB	Malaysia Education Blueprint.

MEB (HE)	Malaysia Education Blueprint (Higher Education).
MEXT	Japanese Government Scholarship (Monbukagakusho).
MIDA	Malaysian Investment Development Authority.
MIS	Malaysia International Scholarship.
MIT	Massachusetts Institute of Technology.
MITI	Ministry of International Trade and Industry.
MMAM	Might-Mentor Advanced Manufacturing.
MoA	Ministry of Agriculture and Agro-Based Industry.
MoE	Ministry of Education.
MoF	Ministry of Finance.
MOOCs	Massive Online Open Courses.
MOSTI	Ministry of Science, Technology and Innovation.
MPIC	Ministry of Plantation Industries and Commodities.
MPU	<i>Matapelajaran Umum</i> or General Subjects.
MQA	Malaysian Qualifications Agency.
MQF	Malaysian Qualification Framework.
MRUs	Malaysian Research Universities.
MTUN	Malaysian Technical Universities Network.
My3L	Malaysia Lifelong Learning Carnival.
MyLAB	Malaysia Laboratories For Academia-Business Collaboration.
MyQUEST	Malaysian Quality Evaluation System.
MyRA	Malaysia Research Assessment Instrument.
MySpeKK	<i>Sistem Penarafan Kolej Komuniti.</i>
NeLC	National e-Learning Centre.
NGOs	Non-governmental organisations.
NIC	National Innovation Council.
NKEAs	National Key Economic Areas.
NRE	Ministry of Natural Resources And Environment.
NSRC	National Science And Research Council.

NTU	National Taiwan University.	RPE	Recognized prior experience.
NUS	National University of Singapore.	RUs	Research Universities.
OBB	Outcome-based budgeting.	SAMD	Student Admissions Management Division.
OCR	Open Courseware Resource.	SAY 1M	Strategic Action for Youth 1Malaysia.
ODL	Open Distance Learning.	SEA	Southeast Asia.
OE	Operating expenditure.	SETARA	<i>Sistem Penarafan Institut Pengajian Tinggi Malaysia.</i>
OECD	Organisation for Economic Co-operation and Development.	SKM	<i>Sijil Kemahiran Malaysia</i> or Malaysian Skills Certificate.
OIC	Organisation Of Islamic Countries.	SLAB	<i>Skim Latihan Akademik Bumiputera</i> or Bumiputera Academic Training Scheme.
OUM	Open University Malaysia.	SLAI	<i>Skim Latihan Akademik IPTA</i> or IPTA Academic Training Scheme.
PAV	<i>Pendidikan Asas Vokasional</i> or Basic Vocational Education.	SMEs	Small and medium-sized enterprises.
PCG	Putrajaya Committee on GLC High Performance.	SMU	Singapore Management University.
PCT	Patent Cooperation Treaty.	SOP	Standard operating procedure.
PEMANDU	Performance Management And Delivery Unit.	SORP	Statement of recommended practice.
PhD	Doctor Of Philosophy.	SPM	<i>Sijil Pelajaran Malaysia</i> or Malaysian Certificate Of Education.
PISA	Programme for International Student Assessment.	SSPN-i	<i>Skim Simpanan Pendidikan Nasional</i> or National Education Savings Scheme.
PL1M	<i>Program Latihan 1Malaysia.</i>	STEM	Science, Technology, Engineering and Mathematics.
PLO	Programme learning outcome.	STPM	<i>Sijil Tinggi Persekolahan Malaysia</i> or Malaysian Higher School Certificate.
PMO	Programme Management Office.	SVM	<i>Sijil Vokasional Malaysia</i> or Malaysian Vocational Certificate.
PolyRate	<i>Penarafan Politeknik.</i>	TEA	Total early-stage entrepreneurial activity.
PPP	Public-private partnership.	THE	Times Higher Education rankings.
PPP	Purchasing power parity.	TIMSS	Trends in International Mathematics and Science Study.
PPRN	Public Private Research Network.	TSP	Time Sector Privatisation.
PSTPN	<i>Pelan Strategik Pengajian Tinggi Negara</i> or National Higher Education Strategic Plan.	TTOs	Technology Transfer Offices.
PT3	<i>Pentaksiran Tingkatan 3</i> or Form 3 Assessment.	TVET	Technical and vocational education and training.
PTPTN	<i>Perbadanan Tabung Pendidikan Tinggi Negara</i> or Higher Education Fund Foundation Corporation	U21	Universitas 21.
R&D	Research and development.	UGGI	University Good Governance Index.
R,D & C	Research, development and commercialisation.	UIM	<i>Universiti Islam Malaysia</i> or Islamic University of Malaysia.
ROI	Return on investment.		

UiTM	<i>Universiti Teknologi MARA.</i>
UKM	<i>Universiti Kebangsaan Malaysia or National University of Malaysia.</i>
UM	<i>Universiti Malaya.</i>
UN	United Nations.
UNESCO	United Nations Educational, Scientific And Cultural Organisation.
UniKL	<i>Universiti Kuala Lumpur.</i>
UNIMAS	<i>Universiti Malaysia Sarawak.</i>
UNISEL	<i>Universiti Selangor or University of Selangor.</i>
UNITEN	<i>Universiti Tenaga Nasional.</i>
UPM	<i>Universiti Putra Malaysia.</i>
UPSR	<i>Ujian Penilaian Sekolah Rendah or Primary School Evaluation Test.</i>
UPU	<i>Unit Pusat Universiti.</i>
USD	United States Dollar.
USM	<i>Universiti Sains Malaysia.</i>
UTM	<i>Universiti Teknologi Malaysia.</i>
UTP	<i>Universiti Teknologi Petronas.</i>
UUCA	Universities and University Colleges Act.
VC	Vice-Chancellors.
VET	Vocational education and training.
WBL	Work-based learning.
WEF	World Economic Forum.
WOU	Wawasan Open University.

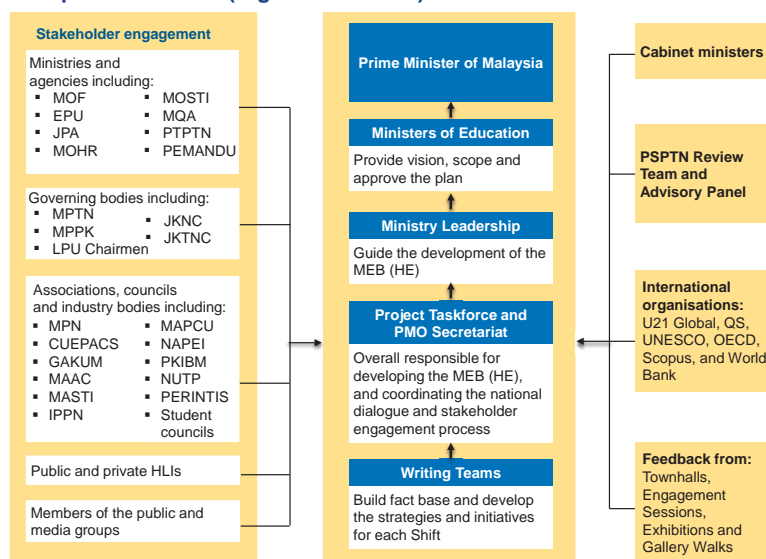
MEB (HE) Governance Structure

A Project Taskforce and the Programme Management Office (PMO) of the Higher Education Sector in the Ministry of Education were responsible for coordinating the blueprint development process, managing key sources of input, and engaging a broad range of stakeholders. The taskforce reported to and obtained guidance from the Ministers of Education and the Ministry's leadership throughout the development of the MEB (HE). The governance structure for the MEB (HE) development is shown in Exhibit AC-1.

The MEB (HE) was developed over three phases in a highly collaborative and consultative approach, through the efforts of numerous stakeholders and public engagement sessions that included forums, townhalls, gallery walks, public dialogue sessions and online engagement channels.

EXHIBIT AC-1

Governance structure for the development of the Malaysia Education Blueprint 2015-2025 (Higher Education)



Ministry of Education Leadership

- Tan Sri Dato' Haji Muhyidin Haji Mohammad Yassin, Deputy Prime Minister and Minister of Education Malaysia
- Dato' Seri Idris Jusoh, Minister of Education II
- Datuk Mary Yap Kain Ching, Deputy Minister of Education I
- Tuan P. Kamalanathan s/o P. Panchanathan, Deputy Minister of Education II
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- Dato' Seri Dr. Ir. Zaini Ujang, Secretary General II, Ministry of Education
- Dato' Sri Dr. Khair Mohamad Yusof, Director General of Education
- Dato' Prof. Dr. Asma Ismail, Director General of Higher Education
- Dato' Hj. Nasir Mat Dam, Deputy Secretary General (Higher Education Development), Ministry of Education
- Hasnol Zam Zam Ahmad, Senior Undersecretary, Higher Education Administration
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- Dato' Amir Md. Noor, Director General, Department of Community College Education
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