

Mapping the Futures of Malaysian Higher Education: A Meta – Analysis of Futures Studies in the Malaysian Higher Education Scenario

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Abstract

Futures studies are not new to the Malaysian Higher Education scenario. Numerous research articles have been written documenting details of futures interventions ranging from intensive silo university-based programmes to the centralized ministry-based ones. Universities such as Universiti Sains Malaysia and Universiti Teknikal Malaysia Melaka manifested the relevance of futures-oriented thinking and planning among its stakeholders, which led to intensive futures workshop held in the early years of 2002 and 2012 respectively. The Ministry of Higher Education through its Higher Education Leadership Academy or AKEPT had also initiated structured futures programmes in the years of 2012-2014 for higher education stakeholders consisted of vice-chancellors, deputy vice-chancellors, university professors and academics. Although many studies have been shared with reference to the futures studies efforts by

Malaysian universities and the ministry, but a comprehensive meta-analysis has not been made available yet. This study is a meta-analysis based on futures scenarios articles produced by experts and practitioners of foresight studies. It provides a run-through of the foresight endeavours with reference to the Malaysian Higher Education specifying details on the conceptual framework adopted, methods, results and discussions with a strong indication of the unequivocal importance of futures studies in canvassing a dynamic image of the preferred future; subsequently triggering deeper futures thinking and innovation-oriented higher education community.

Keywords: Higher education; Futures workshops; Meta-analysis; Futures thinking; Innovation-oriented.

Introduction

The Malaysian Higher Education (MHE), particularly universities, have been identified as the main drivers of change for Malaysia towards a developed and highly industrialized nation by 2020. In designing a favourable economic and social futures, the role of universities is critical especially in the coming decade of Industry 4.0 which accentuates on knowledge accrual and competency. A knowledge-based economy calls for a learning-intensive society which are innovation-oriented and highly specialized, thus making university education notable and a priority for the Malaysian government (Ninth Malaysian Plan 2006-2010; Ministry of Higher Education Malaysia 2007). In preparing Malaysia's future generation who embodies not only the character of good citizenry, but also with the capacity to contribute to the country and society via innovative abilities to generate wealth for the nation (by being entrepreneurial and job creators), the knowledge acquired and transferred by the education providers, specifically higher education institutions are highly critical. The contents delivered have to be in tandem with the global technological and demographic changes in developing countries. According to Norzaini et al. (2010), Malaysian universities must confront the new realities by creating and structuring appropriate models that can determine future modifications of the university systems. In delineating a model of a sustainable future higher education, patterns in the past can provide subtle directions towards realistic images of the desired future.

As the turn-key to the transformation of knowledge and mind set change is education, higher education then, takes the lead in setting the motion for futures oriented thinking with universities such as Universiti Sains Malaysia (USM) and Universiti Teknikal Malaysia Melaka (UTeM) initiating a case for change and moving towards developing futures scenarios for their respective universities. The Ministry, through the Higher Education Leadership Academy or AKEPT had also in the years of 2012-2014 streamlined the necessity for futures studies, congregating key stakeholders in universities for a three-phase immersive workshops and conferences with the single aim of mapping the futures of higher education in Malaysia. Imagining the future and projecting forward into time dictates a practical conceptual framework for MHE and the Six Pillars Approach (Inayatullah, 2008) to futures thinking that was adopted led to a number of quantifiable success.

Diverse empirical studies on futures scenario planning embarked by Malaysian universities and the ministry through AKEPT have been published with highlights on the transformation process towards the preferred scenario. According to Miller (2003), in formulating goals and strategies for the future of universities, it is critical that the activities are guided by a thorough assessment of trends and major forces in our external environment that shape the context in which a university will operate. In identifying the pushes of the present, the futures-oriented workshops within the MHE exemplifies the comprehensive six pillars foresight approach which began with

identifying emerging issues and trends, discerning the first and second order of these implications, deconstructing metaphors and narratives, creating alternative futures, designing a preferred future, and articulating related strategies.

This analysis provides an in-depth discussion of the foresight interventions in Malaysian universities, with specific reference to USM and UTeM of which had initiated intensive organization-based futures scenario planning and AKEPT as the ministry's main leadership training arm took scenario planning to a higher level with structured workshops involving 21 universities in 2012, 2013 and 2014. The aim of this paper is not only to synthesize the findings but more so to analyse through meta-analysis for integrating the findings (Glass, 1976). Specifically, this paper provides a comprehensive review of nine empirical studies written by experts and practitioners of futures studies, detailing the why and wherefore and the individualized to all-encompassing scenario planning stages with plausible conclusions and recommendations to the university management and the ministry as a way forward.

Theoretical Background and Prior Evidence

Malaysian Higher Education, under the purview of the Ministry of Higher Education has undergone several remarkable reforms in response to the changes in the global economic, political and education landscapes. The Malaysia National Higher Education Action Plan (2007-2010), the National Higher Education Strategic Plan (NHESP), Malaysian Education Blueprint (MEB) 2015-2025 (Higher Education) and the recently launched National Transformation 2050 are among instrumental documents in strategizing Malaysia as an international hub of excellence for higher education. The MEB 2015-2025 (HE) launched in 2015 is a comprehensive master plan for the development and growth of the higher education sector over the coming decade of knowledge-based economy and learning intensive society. The MEB (HE) 2015-2025 outlines a series of aspiring goals for the sector with an ambition to create a higher education system that ranks among the world's leading higher education systems and enabling Malaysia to compete globally. With an increased enrolment of up to 70% to 1.3 million students over the last 10 years, MHE institutions have been ranked strongly amongst the Asian peers.

MHE constitutes of 20 public universities of which 13 have attained the autonomous status, 513 private institutions of higher learning, 34 polytechnics and 94 public community colleges in 2016. Five of the 20 public universities have been assigned Research University (RU) status which entitled these institutions to receive additional funding for research, development and commercialization. The remaining 15 public universities are categorized as either comprehensive or focus universities. The comprehensive universities offer a broader range of programs while the focus ones maintain their assigned niche and in the case of Malaysia, the focus universities specialise on technical and vocational education training or TVET.

The development of higher education in Malaysia has been the product of a strong interaction between global higher education trends and national needs as a response to globalization necessitating change and innovation. Kaur, Morshidi and Norzaini (2008, as cited in Morshidi & Kaur, 2007, p.1) argued that "in the Malaysian context, higher education has increasingly become global and international in its perspectives but the exact dimension of such endeavours is still in a flux". Anticipating future challenges of the 21st century, the MEB (2015-2025) (HE) outlines elements of change within the higher education setting with the transition from the current centralized governance system to a model based on earned autonomy to ensure a more holistic development of the nation's human resources, equipping them with the necessary values, knowledge, and skills to succeed in an increasingly competitive and uncertain world.

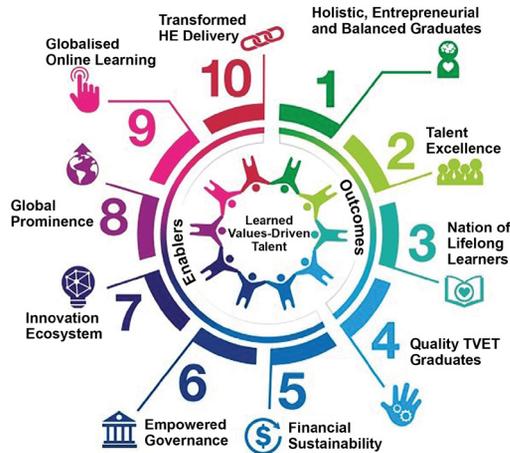


Figure 1. Ten shifts of the MEB 2015-2025 (HE)

Ten shifts has been outlined to underpin the MEB (HE) 2015-2025. 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.

Prior to the launch of the MEB 2015-2025 (HE), the Ministry of Higher Education had organised a series of futures scenario planning workshops under the Ministry's Leadership Academy (AKEPT) in the years of 2012-2014, involving participants from public and private universities in Malaysia¹. The workshops were conducted by Professor Sohail Inayatullah using the Six Pillars Approach (Inayatullah, 2008; Inayatullah, 2015; Inayatullah & Milojevic, 2015). Universities' key stakeholders went through rigorous strategic foresight processes of developing shared views of the organization's history, mapping the future, identifying emerging issues (Inayatullah, 2005), deepening issues by identifying systemic, worldview and myth causes, developing alternative futures of the organization (so as to make the future more open and thus enhance the possibility of change), articulating a vision, a direction forward, and developing action learning experiments so that the vision of the university of the future can become real.

The systemized futures scenario workshops at AKEPT were further extended through the scenario building efforts by USM and UTeM. These two institutions planned and executed intensive institutional-based foresight workshops at their respective universities in early 2005 and 2012. The immersion of the six pillars futures studies approach in the foresight projects conceptualized the pushes of the present, identified the unknowns and explored new possibilities in building capacity for change. The deep-thinking process throughout the futures sessions resulted in viable action plans within the USM, facilitating in their attainment of the APEX University² status in 2008. Similarly in the case of UTeM, the foresight intervention in 2012 provided a substantial framework in documenting its Strategic Planning Blueprint 2012-2020 which was successfully completed and fully adopted since October 2012.

Empirical evidence from the futures studies interventions in USM and UTeM showed the effectiveness of dedicated foresight projects in charting impactful outcomes while the systemic approach to futures studies held at AKEPT may have succeeded in initializing a future thinking academic cohort, but is deemed questionable in ensuring a sustainable change towards the desired image of the future. As the classification of the universities in Malaysia differs based on the categories of Research, Comprehensive, Specialized or Focus University, so do their niches and

goals which vary accordingly, allowing each to pursue clear objectives in addressing the varied nature of students' abilities and interests. This analysis highlighted on the pertinence of futures studies in steering Malaysian universities towards the preferred with specific details on factors that triggered the case for change, testimonies of successful adoption of foresight methods specifically by USM and UTeM, the barriers weighing down foresight ventures, and way forward for the MHE institutions towards becoming more futures-directed and innovation-oriented. Empirical studies used in this analysis are synthesized output of futures studies exercises conducted in the years 2008, 2012, 2013 and 2014 with only case studies and scenarios referring to the stipulated time frame.

Methodology

This study is a meta-analysis drawn from nine articles and four reports by experts and practitioners of futures studies on futures scenario planning and futures scenario building courses organized by AKEPT, USM and UTeM. While the AKEPT futures reports examined the alternative futures of higher education in Malaysia with consolidated findings from 17 universities, the comprehensive studies by USM and UTeM presented and articulated in depth institution-based futures scenarios with distinct preferred futures. The foresight-oriented discourses were all guided by the 'six pillars' futures approach (Inayatullah, 2008; Inayatullah, 2015; Inayatullah & Milojevic, 2015). The selected articles and reports were analysed qualitatively to identify common themes that highlighted details of successful foresight works by AKEPT, USM and UTeM. Recommendations for MHE towards the preferred futures were derived from the cross examination of the AKEPT's three years of anticipatory action learning led by Professor Sohail Inayatullah. Subsequently, within the Malaysian universities' context, five interconnected themes were identified and deliberated: dynamic global economic environment, higher education in a digitized era, holistic academics who are agents of change, adaptive and responsive governance and leadership and shared unobstructed vision. These themes are discussed in further details in the next section.

Empirical findings

Dynamic global economic environment

Advancing into a new decade, Malaysia needs a new catalyst for national development. The 30-year transformation plan for Malaysia also known as the National Transformation Plan 2050 or *Transformasi Nasional* (TN50) was announced by the Prime Minister of Malaysia in January 2017 with the aim of spearheading the nation into a new era. The TN 50 is a far reaching national strategic plan amplifying the Vision 2020 agenda. According to Anders Borg (2016), populism and discontent marked the global economic environment in the year 2016 onwards with job security being undermined by global competition, digitalisation and robotization. The decade of the 'rise of machines'³ or better known as the Industry 4.0 demands an acute attention to the unwavering importance of transdisciplinary education, expert knowledge and social skills as requisites in ensuring a sustainable quantum leap upwards. MHE, specifically the universities, as the education powerhouse of Malaysia, need to revive its strategies and recreate its images of the future in ensuring enhanced sustainability and visibility.

As the global economy shifts from industry-intensive to knowledge-intensive, the role of higher education becomes even more pronounced. Higher education institutions are expected to produce a higher-learning intensity workforce with the required tenacities and competencies to drive the country's economic growth and productivity. This mission relies heavily on the successful integration of innovation, processing, dissemination and application of knowledge (Norzaini, Morshidi, & Mohd, 2010). The outcome of the AKEPT 2012 futures workshop had forecasted this image of the future rather aptly. With the theme 'Malaysian Universities in Transformation',

17 universities participated in an action learning exercise using the ‘six pillars’ framework. The framework provided key markers in developing the preferred scenario for the futures of teaching and learning within the context of MHE and the viable changes in the role of student services for Malaysian universities by the year 2025.

With the interplay of the driving forces of change facing MHE institutions, USM and UTeM had pro-acted and called for futures studies insight workshops for the university’s stakeholders. Although their objectives and aspirations differed, USM was steering towards the APEX recognition and UTeM was targeting on the documentation of the next 5-year strategic plan. Futures thinking and planning must be incepted before any plausible changes could be made possible. The intent was clear: futures studies had created alternative futures by making basic assumptions of problematic areas and by questioning what the future holds, and analysing emerging issues analysis and scenarios. The intention was to move out of the present and create the possibility for new futures (Inayatullah, 2013). USM and UTeM had succeeded in their respective attempts, hence achieving the desired outcomes.

UTeM’s initial objective of developing the university’s five years’ strategic plan through scenario planning had extended into a deeper threshold of transformative foresight. University stakeholders were involved in an action learning iterative cycle guided by the six pillars principle and articulated their strategic visions, reflecting on new challenges in pursuit of global recognition (Ithnin, Mohd, & Yusoff, 2017). With an equally strong objective of ensuring supreme and empowering strengths, USM’s foresight interventions started much earlier in 2005 with the hindsight that while there are always niches in any organization where one can hide, by and large, the entire university – as a process, as a learning organization, and as a complex interaction of persons, institutions and desires was and continues to be involved in this change process (Nasruddin, Bustami, & Inayatullah, 2012). Consequently, the futures studies infused through the AKEPT, USM and UTeM’s foresight projects had proven compelling insights in aligning both universities towards an innovation-oriented futures organization. Figures 1, 2 and 3 depicted alternative futures formulated at the AKEPT, UTeM and USM’s futures workshop respectively. The figures represented the four dimensions: 1) the preferred or being defined as the world we want; 2) the disowned or being defined as the world we reject or are unable to negotiate; 3) the integrated where the owned and disowned are united in a complex fashion; and 4) the outlier or being defined as the future outside of these categories (Inayatullah, 2013).

| MALAYSIAN UNIVERSITIES 2025 | |
|--|--|
| <p>Preferred – Industry-based universities</p> <ul style="list-style-type: none"> • Research-led universities • Industry-funded research • University produces industry-ready students. • Metaphor - Win – win situation | <p>Disowned – Community needs</p> <ul style="list-style-type: none"> • Community is ignored. • Lack of support/funding from the government and industry. • Universities do not solve community’s problems. • Metaphor - You cannot have the cake and eat it too. |
| <p>Integrated – Industry-community-based university</p> <ul style="list-style-type: none"> • Global recognition • University within industry supporting community needs. • University grows together with community. • Metaphor - Café in the library | <p>Outlier – Back to the Ivory Tower</p> <ul style="list-style-type: none"> • Universities continue but the best students do not enrol. • Knowledge is not community nor industry-based. • It is not relevant and new actors enter the market. • Metaphor – Kodak <p>Source: Malaysian Universities in Transformation (AKEPT Report 2012)</p> |

Figure 2. Malaysian Universities 2025

| | |
|---|--|
| <p>Preferred</p> <ul style="list-style-type: none"> • Number of preferred programmes relevant to the global industry • Advanced infrastructure with global recognition • World leading virtual technical university • Metaphor – global brain  | <p>Disowned</p> <ul style="list-style-type: none"> • Identity trade-off • Less hands-on • Lost human touch and soft skills, no physical assessment • Metaphor –Brain drain  |
| <p>Integrated</p> <ul style="list-style-type: none"> • Competitive paid salary globally • Sharing resources globally/global franchise • Global Industrial based program with GLOCAL* flavour. • Metaphor – networking brain  <p>*GLOCAL – Globally recognized, locally entrenched</p> | <p>Outlier</p> <ul style="list-style-type: none"> • Limited programmes meeting industry needs • Conventional way of delivery methods • Less presence felt • Metaphor – brain death  <p>Source: Futures Scenario of Universiti Teknikal Malaysia Melaka</p> |

Figure 3. UTeM Apps University 2025

| | |
|---|--|
| <p>Preferred: Symbiotically Sustainable Study Space</p> <ul style="list-style-type: none"> • Autonomous scholar-preneur culture: ethically driven and substantive • Evidence of virtual-led learning environment with continuous face-to-face mentoring • Extensive outreach with strong synergistic relationships globally and locally brain • Metaphor: The Eagle-bold spirit | <p>Disowned</p> <ul style="list-style-type: none"> • Safe and conservative academic environment • A culture which do not defy authority • Reminiscence of scholarly traditions • Metaphor: Down-to-earth spirit (loss of) |
| <p>Integrated</p> <ul style="list-style-type: none"> • Paradigm shifts: leadership from a substantive ‘scholar’ core + financial independence + globally connected • Multiple helix at work: Collaboration with key stakeholders • A learner-centred environment seamlessly connected to a sustainable environment • Metaphor – A sharp-attentive spirit | <p>Outlier</p> <ul style="list-style-type: none"> • Manifestations of individual academics with own ‘iconic’ legacies • Less loyalty in a scholar-preneur environment • An elevated level of competition amongst academic ‘star’ players to outlast each other • Metaphor – Tug-of-war spirit <p>Source: Futures Scenario of USM</p> |

Figure 4. USM’s symbiotically sustainable study space 2025

Higher education in a digitised era

The advancement of science and technology, especially in the next decade of Industry 4.0 which calls for the emergence of University 4.0, education 4.0 and teaching 4.0 behoves the canvassing of a new focal point. Nearing the final decade of Vision 2020⁴, it is crucial for the government to envisage the future, through the mapping of time – where we have come from and where we are heading next and in so doing, the unknowns are incorporated into decision-making (Inayatullah, 2013). What then would be the narratives of the Malaysian University 4.0, Education 4.0 and Teaching 4.0 that fit the global demands of the future? Polak (1973) has extrapolated that the more sophisticated man’s time-consciousness becomes, the more skilled he is at finding paths to the imagined. Analysis of the literatures have shown that consistent and vivid images of the future within the MHE had enabled stakeholders to share a mutual understanding of the desired scenario.

In the advent of intensified reality in a digitised era, the evolution of cultures will no longer be determined by traditional forces but by technology advancing at breakneck pace. Keeping abreast with latest globalisation trends in higher education, the alternative futures of Malaysian universities must then be re-designed. The net worth of education requires a new definition. Emerging issues such as the mechanisms of university assessments and determining the balance between technology and human contact must be scrutinized. In consonance with the changing landscape of higher education, the notion of a ‘virtual university’ surfaced as one of the preferred alternative futures. The compelling image of the University of the Future in the forecast of a highly digitized, ubiquitous mobile internet, sensors, artificial intelligence and machine-learning futures, was triangulated using the fourth pillar of deepening the futures through Causal Layered Analysis (CLA) (Inayatullah, 2004c). CLA seeks to integrate four levels of understanding: litany (day-to-day), systemic, worldview and myth/metaphor (Inayatullah, 2008). Each level is true and solutions

need to be identified at each level. Figures 4, 5 and 6 present the CLA from the AKEPT, UTeM and USM’s futures workshops.

| | Virtual university | Physical university | Open university | No university (“I-no-go-university”) |
|---------------|-----------------------------------|--|--|--------------------------------------|
| Litany | Ubiquitous learning | Relax, we are comfortable | Open source | Learning from mistrusted sources |
| Systemic | Bottom-up | Top-down | Inside out, outside in | |
| Worldview | Anywhere, anytime, anyone, anyhow | Top-down Lose the competition, lose the students, lose the talent | Produce students who learn from their own initiative Produce students that are jack of all trades | In all directions |
| Myth-metaphor | “One creates the rules” | “One follows the rules” | “One breaks the rules” | “No rules” |

Figure 5. Scenarios of Malaysian University of the future using causal layered analysis (Source: Malaysian Universities in Transformation, AKEPT Report, 2012)

UTeM’s significant images of the futures using the CLA also showed the relevance of a ‘virtual university’. In ensuring global relevance, UTeM presented four alternative futures encompassing an Apps-based University which is in line with the current technology shift of highly apps –savvy students. Adopting the findings from the futures studies project, UTeM established the Centre for Instructional Resources and Technology (CIRT) in 2013 with a mandate to drive the technology surge in higher education and to oversee and reinforce the functions of UTeM Official Learning Management System (ULearn)⁵, the gateway to UTeM Open Educational Resources (OERs), and UTeM Massive Open Online Courses (MOOCS).

| Causal Layered Analysis of UTeM's Futures | | | | |
|---|---|--|--|---|
| | UTeM Small Office Home Office | UTeM@Apps University | University-Industry Integrated | UTeM Open University |
| Litany | UTeM staff spends more quality time with their family, resulting in savings of utilities and space. | Academic programmes offered by UTeM becomes available globally, functional and accredited internationally | UTeM leads in industry-driven and advanced technologies in collaboration with strategic industries in Malaysia. | UTeM offers higher education opportunities to all regardless of qualification, financial status, geographic location, age and abilities – indirectly promoting personal and professional growth in the society. |
| Systemic | Implementation of new policies, enforcing staff monitoring systems and discipline. | Programmes need to comply with needs of industries and duly accredited by international accreditation bodies. | Hosting industries within the university environment also known as the 'Teaching Factory' model. Industries providing factory-scale equipment for teaching and learning. | Advancement of technology & infrastructure. The need to establish a framework to support staff development. |
| Worldview | Out of sight, out of responsibility. | Globally recognized university and global graduate employability. | University educate; industry trains. | Internationalization of industry-based learning. |
| Myth/Metaphor | Fishing from home | UTeM On-Deck | Partners for growth, 'Together as one'. | Mangrove Ecosystem |
| Strategy | Retain the dedicated staff and provide suitable incentives to encourage performance. | Attract top academics and students globally. Invest in latest technologies and teaching and learning facilities. | Organize structured collaborations with industries. Invite leaders of industries as academic programme advisory panels. | Introduce broad-based academic programmes alongside focused-based existing programmes. Invest in innovative teaching and learning infrastructure. |

Figure 6. Mapping the future of UTeM using CLA

Deepening the futures through CLA, USM mapped the images of the A' la Carte University, the Garden campus and the Regional campus, outlining detailed features of each equipped with salient examples of feasible action plans. USM's foresight intervention was incidental and skewed towards inculcating among students and teaching staff that a University must function as a place for nurturing the minds amid natural surroundings that do not intrude into the learning-process (Azhari, 2011). The preferred vision of USM in 2025 is a learning environment, termed as a 'symbiotically

sustainable study space’ which encapsulates three key elements: nature, technology and flexibility (Nasruddin et al., 2012).

The five alternative scenarios for USM were the a’la Carte University, the Invisible University, the Corporate University, the State University and the University in the Garden with an analytic range which described the nature of the vision in full range, whereas, the preferred vision of the University in the Garden signified convergent thinking.

| Alternative scenarios of USM using CLA | | | | | |
|--|---|--|--|--|--|
| | The a’la Carte University | The Invisible University | The Corporate University | The State University | The University in the Garden |
| Litany | USM offers world-class ‘a’la carte dining experience’ through strong R&D and a myriad of academic cuisines. | No formal physical learning of the past. Learners are bestowed with interactive, dynamic and adaptable resources. | Enterprising academics who believe in profit-motive organization and skewed towards ‘survival of the fittest’. | A teaching-research university which thrives through strong collaborations with industries and transnational corporations. | A university based on academic freedom and free from external sources. |
| Systemic | Academic departments offer flexible ‘menus’ which are negotiated with partners, hosts, students and agencies. | Open source model exemplifying the true essence of knowledge, collaborates and builds on prior knowledge. | Liberal, self-funding with new structures of ownership, governance and management. | Productive corporate-like environment work culture. Academics sit as nominees on the board of directors. | Autonomous university model differentiated from the ‘standardised education’. |
| Worldview | Courses appeal to both worldwide learners and employers making it one of the regional and global education providers of choice. | Programmes offered are accessible worldwide to self-directed learners. Research initiatives manifest through virtual collaborative collective world. | Corporate governance policies directed towards the greater good of the nation. | Flexible full degree academic programmes with in-house academic facilitators at the workplace. | Fitting the description of the University of the Future, where every individual is unique with talents that need to be developed within minimum constraints. |
| Myth/ Metaphor | A worldwide academic menu offering a cocktail of courses. | The university is accessible to everyone, everywhere and anytime. | Competitive spirit rules the world. | Strategic alliance is the order of the day. | An idea factory that continuously develop trans-disciplinary talents. |

Figure 7. Mapping the future of USM using CLA

Based on the analysis of the CLA presented in the studies from AKEPT, UTeM and USM, it is evident that fluidity and transdisciplinary in a virtual education setting was projected as the new norm in the coming decade where education was mapped as becoming more flexible, autonomous and accessible.

Institutional change towards the University of the Future must be substantiated by the preferred futures of its mode of delivery. In relations to MHE institutions, participants (deputy vice-chancellors of Malaysian universities) at the AKEPT workshop in 2012 delineated four futures scenarios of teaching and learning in 2025 as shown in Figure 8:

| Lecture | Learning from everywhere | Smart Pedagogy | Wisdom of Choice |
|-------------------------------|------------------------------|------------------|-----------------------|
| Exam-based | Self-directed | Partnerships | Directed partnerships |
| Conformance and certification | Democratization | Blended Learning | Wholesome |
| Force feed | Eat all you can (a'la Carte) | Omnivore | Nutritious buffet |

Figure 8. Teaching and learning scenarios 2025 (Source: AKEPT Report 2012)

The teaching and learning scenarios 2025 depicted by stakeholders have outlined more autonomy to the learners. Three alternative futures identified in the AKEPT workshop pointed to a scenario where students are no longer hog-tied to books as their only source of content; and educators as well as students choose the online channels to find reliable, valuable, and up-to-the-minute information. Although the preferred mode of electronically-enhanced “active learning” in the next decade of higher education denotes a flexible study space and time with resources accessible online but the articulated preferred learning model maintained the necessity of human contact with ‘wholesome’ lectures leading to a ‘nutritious buffet’ of knowledge acquisition. This scenario is indeed a coherent incognizance from an emerging analysis that technology will soon replace many jobs in the upper-skilled sector and only countries that are prepared for this, by upskilling and reskilling, will win (Schwab, 2016), The narrative of a ‘nutritious buffet’ as a better sustenance in the context of MHE was defined as providing students with the needed ‘nutrition’ either towards employment in the robust job market or otherwise towards creating new ventures as entrepreneurs. USM and UTeM concurred with comparable images of ‘The University in the garden’ and ‘The UTeM Apps University’ respectively, with the central theme of a wholesome, flexible and highly accessible academic programmes for their students.

Holistic academics who are agents of change

The ‘nutritious buffet spread’ trajectory of the preferred futures of teaching and learning in MHE institutions 2025 required the skilful touch of ‘master chefs’ who are not only experts in their fields but also committed transdisciplinary agents of change. In relations to MHE institutions, academics are the ‘master chefs’ – the key players in moulding the next generation of innovative thinkers with the capabilities to shape the nation’s future. This desired model of academics was an exact fit of the *Murabbi*⁶, a narrative which transpired at the AKEPT’s futures workshop in 2013.

Senior lecturers who attended the three-day workshop visualized a promising future where educators were noble with the *Murabbi* as the role model. The current scenario of academics presented as multi-tasked and burdened with unrelated duties was depicted by the metaphor of “buy one, get all for free”. These two scenarios were then tied up to form the integrated whole of a balanced academic eco-system.

CLA - The Future Academic as Murabi

| | View of lecturers | Current reality | Integrated scenario |
|------------------|---|--|---|
| Litany | Murabbis are noble educators | Lecturers' jobs are becoming more complex | Knowledge-sharing is caring |
| Systemic | In order for murabbis to produce excellent students, the system should allow murabbis to exercise flexibility and freedom | The system sets the direction for lecturer job specification | Synergised student-murabbi interaction |
| Worldview | Murabbis only perform expertise-related tasks in multi-disciplinary fields; not saddled with unnecessary clerical work | Multi-tasking lecturers | Customizing murabbis expertise to suit students interest towards a resilient, competitive and sustainable society |
| Metaphor | Murabbis as role model  | Buy one, get all for free  | A balanced academic eco-system  |

Figure 9. CLA Analysis – The future Academic as *Murabbi* (Source: Transforming the futures of higher education 2013, AKEPT Report)

Mapping the future through the first of the ‘six pillars’ has empowered a stronger push of the present towards the pulls of the future with the alternative future of the preferred *Murabbi* as the transdisciplinary thinkers and change agents’ academics model. Nicolescu (1996) asserted that transdisciplinary is the ‘disciplinary big bang’ that re-values the role of deeply rooted intuition, of imagination, of sensitivity, and of the body in the transmission of knowledge. Indeed, the personification of the *Murabbi* as the holistic academics will ensure a symbiotic and interdependent MHE institutions’ ecology which calls for a flexible augmented reality, and global-in-outreach-deep collaborative environment with industry and community (Nasruddin et al, 2012). A refined higher education culture, a reduced peripheral non-academic task among academics and democratization will see the MHE through towards the aspiration of the MEB 2015-2025 of producing balanced and holistic graduates with entrepreneurial mind-sets and nurturing ‘job creators’ rather than just ‘job seekers’.

Adaptive and responsive governance and leadership

The 2014’s futures workshop organized by AKEPT which was themed ‘Leadership and Governance – Can Malaysian Universities meet the challenge?’ deliberated on a number of hypothetical premises on the probability of a structural transformation for MHE by 2025 that leads to a new governance model of a consortium. Views of fifty representatives from various public and private universities were heard resulting in a thorough analysis of the current scenarios and alternative futures leading to the preferred future.

Over the years, the MHE has certainly grown from strength to strength. Kaur, Morshidi and Norzaini (2008, as cited in Morshidi & Kaur, 2007, p.1) argued that “in the Malaysian context, higher education has increasingly become global and international in its perspectives but the exact dimension of such endeavours is still in a flux”. While it is apparent that Malaysia will continue to be impacted by global forces but local responses and the consequences may vary (Lee & Healy, 2006). Ensuring continual relevance in the decade of disruptive technologies of advanced robotics, the Internet of Things, and the automation of knowledge, analysis of studies on foresight projects highlighted the dogma of ‘unity is strength’ through the narrative of a consortium. Borderless, integrated, flexibility, speed, efficiency and effectiveness are the key words of a consortium of universities. The net result of which would be an enhanced system able to meet the diverse, current and future needs of the learners, employers and the nation.

A consortium model has suggested smart partnerships and peer-to-peer economies through co-production and deep engagement among universities. This requires the patronage from policy makers in which the creation of a new centralized higher education system can be realised. The appointment of visionary university leaders who are not only adaptive but also creative is also highly critical. The analysis depicted a graphic illustration of the preferred leader who portrays the wholesome, nurturing and passionate ‘gardener’ as opposed to the local analogy of ‘Tikus membaiki labu’⁷. This utopia of a systemic shift will determine a profiting outcome of a more dynamic, globalized and competitive higher education. Working towards the preferred governance and leadership future for MHE, salient enablers such as talent-based appointments, talent pooling, and changes in the governance system, changes in governance ecosystem and a thorough review (Inayatullah, Milojevic, Sanusi, & Ithnin, 2014) are also perceived as critical.

Old metaphor – No focus, no strategy, no beauty



New metaphor – gardening the future



Figure 10. Changing Metaphor (Source: Malaysian Universities in Transformation, AKEPT’s Report 2014)

Shared clear vision

A coherent vision is vital to any efforts of an institution’s endeavour. In the context of the MHE, the ever complex and changing future requires a fundamental transformation of the higher education system. A lucid vision is likened to a lighthouse in guiding and ensuring that institution’s efforts are aligned with the MHE’s aspiration towards a centre of higher education excellence by the year 2020. As Polak (1973) has argued that visions work by pulling people along, giving the individuals and groups a sense of the possible, and inspiring the noble within each person. An organization or nation or civilization without a compelling vision of the future will decline.

The MHE has come a long way since the three major educational bills in 1996⁸. With the constant change in the global and national higher education landscape, some notable challenges have become characteristic trends in Malaysia’s higher education arena: shaping the knowledge society, generating employability, integrating the dimension of sustainability, internationality, quality orientation and competitiveness, development and use of new forms of teaching and learning (Morshidi, 2010). With these hindrances standing in the way, MHE’s vision must be supported by a realistic narrative with distinct metaphors. The ‘Six Pillars’ futures studies approach for the MHE futures planning proved timely as evidenced by the inclusion of some key recommendations in the Ministry of Higher Education’s 2017 annual address themed “Redesigning Higher Education”.⁹ The shared vision of the preferred future that will transform the MHE landscape towards preparing the future generation by design and not by chance was indeed envisioned during the scenario planning exercises at AKEPT. During the launch of the MEB 2015-2025, the Minister of Higher Education,

Dato' Seri Idris Jusoh reiterated that Malaysians deserve the best education that the country can offer and the best education calls for a common vision, best governance, and astute leadership.

Universities need possible scenarios, as one of the enablers, which can support the vision of equipping Malaysian youth with the necessary values, knowledge, and skills, in accordance to the Malaysian education system's goal of ensuring a holistic development, to succeed in an increasingly competitive and uncertain world. If the challenges of the next decade predicate on knowledge economy and technology pervasiveness, then alternative futures of Malaysian universities must correlate with these driving forces. Pragmatic studies on Malaysian universities futures have shown that with a shared vision clearly outlined, future-oriented discussions which involved identifying uncertainties and risks and developing alternative futures become more presumable (Inayatullah, 2008). Malaysian universities forethought of the virtual university model corresponds with the imminence of a digital age. This is when omnipresent learning, transdisciplinary, and value creation reign supreme. This is also when "connecting the dots" is no longer the be-all and end-all of learning and when unlearning and relearning skills become definitive for an adaptive generation.

Encouragingly, the MEB 2015-2025 indicated specific emphasis on global-online learning as one of the 10 shifts, highlighting Massive Open Online Courses and blended learning as among innovative ways of teaching and learning in the next decade. The factory model of learning in universities will eventually be replaced with a more holistic model through the universal use of apps and global online platforms which will undoubtedly empower greater dynamism and personalisation of students' learning experience. This vision of an integrated higher education learning environment conformed to the aspiration of the government to institute a full e-learning education scenario in universities by year 2020.

Conclusion

As Malaysia parlays its futures for the next three decades within the framework of TN50, MHE's transformation towards the desired future will be more promising with a committed institutional buy-in. Through foresight methods and strategic planning, the future could be shaped towards the preferred. In-depth discussions using the Six Pillars futures approach during the foresight projects conducted in the years of 2008, 2012, 2013 and 2014 culminated with some crucial alternative future images. Recommendations of the preferred vision of the future through strategic action plans and futures directions ensued with documented reports to the Ministry of Higher Education.

The corollary then for MHE is that greater autonomy with accountability to the universities will sanction a more responsive higher education community in the forthcoming decade of uncertainties and changes. Weights of the past or barriers may dampen the strife towards the ideals or the best-case scenario and these challenges will require further analysis. For now, some pertinent questions to ask are whether the higher education sector, and its main driver – the university are willing to sail uncharted waters and casting the familiar vistas of the used future for a new precarious alternative one. The question will also be whether the policy makers, who are guardians of the broader public interest, will fully consider other scenarios that will radically alter the current order. As change thinkers and change makers, university leaders and stakeholders are the key players in determining a more sustainable future of higher education. Polak (1973) has asserted that an image of the future is an end. Any such image is betrayed if it becomes only a means to the continued survival of a culture, no matter how desirable that culture may be in and of itself. The culture in fact derives its desirability from its image of the future - a future which it is attempting to achieve. Thus, it is apparent that if Malaysia aspires to emerge as the hub for higher education excellence in the region, then, MHE must champion all efforts towards the desired futures and evolve in tandem with the pulls of the future.

Conclusively, the meta-analysis has ascertained that scenario planning and futures studies interventions in the MHE setting have been instrumental in providing a probable framework for the ministry and universities, in realigning and fine-tuning their images of the future towards a holistic university model. The structured foresight studies guided by the ‘six pillars’ framework substantiated considerable understanding and knowledge to the key stakeholders in the MHE particularly in identifying the key enablers, pushes of the present, pulls of the future and the weights of the past that are all instrumental in visioning of the possible futures.

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Endnotes

1. From the years of 2012-2014, three series of futures scenarios workshop were carried out involving among others Universiti Teknikal Malaysia Melaka, Universiti Putra Malaysia, Universiti Malaysia Terengganu, Universiti Malaysia Sabah, Universiti Malaysia Kelantan, Universiti Malaysia Perlis, Universiti Utara Malaysia, Universiti Sains Malaysia, Universiti Malaysia Sarawak, Universiti Sultan Zainal Abidin, Universiti Kebangsaan Malaysia, Universiti Islam Antarabangsa Malaysia, Universiti Teknologi Mara, Universiti Tun Hussein Onn Malaysia, Universiti Pertahanan Malaysia and Unversiti Pendidikan Sultan Idris.
2. APEX refers to Accelerated Programme of Excellence and USM is the only university in Malaysia with the APEX status.
3. The term ‘rise of machines’ is used to depict the fourth industrial revolution era or Industry 4.0 arising from the latest technological innovations including AI, driverless cars and 3D printing.
4. Vision 2020 was introduced by the former Prime Minister of Malaysia, Tun Mahathir bin Mohamad during the tabling of the Sixth Malaysia Plan in 1991 highlighting imperatives, among others building of a nation infused by strong moral and ethical values, a society that is democratic, liberal and tolerant, caring, economically just and equitable, progressive and prosperous, and in full possession of an economy that is competitive, dynamic, robust and resilient. The vision outlined nine strategic challenges covering issues on socio-politics and economics that are pertinent in achieving the desired developed nation.
5. UTeM Official Learning Management System (ULearn) refers to the e-Learning platform developed by CIRT to enhance online learning and teaching among its academics and students.
6. Murabbi is an Arabic term depicting highly motivated and excellent educators cum researchers and lecturers in Malaysian universities. A Murabbi is a visionary academic with high integrity, possessing knowledge that contributes to the well-being of others, a thinker who moulds and influences the shape of the nation’s future.
7. ‘Tikus membaiki labu’ is a local metaphor depicting a bad to worst case scenario.
8. The three major educational bills refer to the 1. National Council on Higher Education Bill, 2. Private Higher Education Institutions Bill, and 3. National Accreditation Board Bill.
9. “Redesigning Higher Education” agenda was introduced by the Minister of Higher Education in his Annual Address on 16 January 2017 aiming at providing the best higher education in the world and to acquaint the Institutions of Higher Education (IHE) in Malaysia with world renown.

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Appendix I: Articles used in the meta-analysis

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Appendix II: Reports used in the meta-analysis

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2. Inayatullah, S., Milojevic, I., Sanusi, Z. A., & Ithnin, F. (2013). Transforming the Futures of Higher Education in Malaysia, A Report to the Ministry of Higher Education.
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