

BUSINESS MODEL SHIFTS: MAKING MALAYSIAN UNIVERSITY-OF-THE-FUTURE SUSTAINABLE AND RELEVANT IN THE POST-PANDEMIC AND DIGITAL ERA

BILAL AHMED WANI^{1*}, QANDAGHA SAFI²,
ABDUL RAHMAN AHMAD DAHLAN³

¹²³*Kulliyah of Information and Communication Technology, International Islamic University of Malaysia, Kuala Lumpur, Malaysia*

**Corresponding author: bilalwani@gmail.com*

ABSTRACT: Long before the pandemic struck in 2020, digital transformation would have been a strategic goal in making future universities relevance and sustainable in the post-pandemic and digital era. In recent years, however, the progressive roll-outs that constituted the basis of these programmes have been abandoned, with universities embracing online learning and digital student services at an alarmingly fast rate. This study investigates the digitisation of teaching & learning (T&L), Research & Innovation (R&I) and Community Engagement (CE) as both an external process affected by the government and worldwide trends, as well as an internal activity occurring inside educational establishments in Malaysian Current Universities (MCU). Malaysian Universities need new business models in order to remain relevant and viable. Driving factors such as technological advancement, financial assistance and market developments are forcing the higher education sector to rethink its business model. The post-pandemic, 4IR and digital changes are dynamic and complex. We use a design thinking approach in which business modelling tools such as the Environmental Map (EM), Business Model Canvas (BMC), and Value Proposition Design Canvas (VPC) are used to establish, layout, and consider different business models to humanise education for higher education institutions, as well as for other universities in Malaysia and globally. These technologies enable universities to create value and give value propositions and advantages to their customer segments. Finally this paper aims to establish a conceptual Malaysian University of the Future (MuotF) business model that is continuously relevance in the post-pandemic and IR4.0 era.

KEY WORDS: *Malaysian University of the Future, Digital Transformation, Business Model, Post-pandemic, IR4.0, Humanize Education*

1. INTRODUCTION

As a starting point, we must recognise that universities have grown into enormous multinational enterprises with several products as well as multiple processes and multiple functions. Because of a lack of financing from the government, they've had to make this adjustment. Today's institutions are very different from those that existed 50 years ago, and we must recognise this difference. Moreover, it is necessary to emphasise that colleges should be more than Teaching and Learning. Research and Innovation and Community Engagements are crucial to guarantee that the core of education is recognised. Although these plans called for a gradual rollout, universities have adopted online learning and digital student provision at an amazing rate, therefore the plans have been abandoned. Furthermore, a great education generates fully functional citizens who are capable of taking full responsibility for their society's success and well-being. From an economic standpoint, an excellent education that is available "to everyone" generates competent professionals and skilled workers who are capable of competing on a global scale and proficient at keeping up with fast technological innovation (Guma and Dahlan, 2020).

As reported in the Ernst & Young Report on Future Universities (2018), the higher education industry is experiencing a profound shift, particularly in terms of the sector's function in society, method of operation, as well as economic structure and value. After conducting a study of universities in Australia, their primary hypothesis is that the dominant university model of a broad-based teaching and research institution supported by a large asset base and a large, predominantly in-house back office will be rendered non-viable by the majority of institutions within a 15-year period (Ernst and Young, 2018).

Another Issue is that students are spending thousands of dollars to participate in a course, and the quality of the course is stated to be lower than anticipated, resulting in greater unemployment rates among graduates as compared to school dropouts (Dr. Terry Bergeson, 2006). Higher education is considered to be costly, and many graduates find themselves in debt after finishing their studies. Higher education has tended to emphasise information and skill acquisition above moral and spiritual development in students, according to a humanising education viewpoint. As a result of the educational system's emphasis on information and abilities, graduates have become less concerned with morality and religion in their work and personal lives. White collar crimes, like as corruption and abuse of power, are on the increase. In order to produce well-educated graduates, HEI should strive to cultivate students with a strong believe in and commitment to Creator. HEI's value propositions have been questioned by the public as a result of these events.

While many colleges are adopting particular digital strategies in response to the tremendous shift towards the use of new technologies, many do not have the vision or the competence or the willingness to put such plans into reality in an efficient manner. So many universities end up spending a lot of money on technologies that don't really provide what they promise. These institutions need creative business

models and strategies that are both appropriate and consistently relevant to their course offerings. Keeping the university relevant in the digital era demands a strategic vision for the whole institution, one which must be led by the senior leadership team and completely supported by all faculties and departments with qualified people, not simply the information technology (IT) department. Lack of digital transformation competencies and culture within the higher education community, early involvement and interaction in order to develop the appropriate support networks is required in order to achieve a long-term change throughout the whole institutions.

2. BACKGROUND

Industry 4.0's journey has already begun to take shape in today's corporate climate and objectives. Businesses are transforming their operating models, posing significant problems as they demand proactive adaption to the digital culture, notably in terms of employee skills and competencies. Because of this, it is vital that companies and universities collaborate and play an active role in preparing the future generation of workers while also supporting the present workforce via lifetime learning and ongoing training. With the establishment of a community of practise, the universities must work together with other universities, businesses, students and public authorities in order to address the existing gap in the current Higher Education offer and co-create innovative and multidisciplinary solutions that are tailored to the current and upcoming challenges of the digital era.

3. OBJECTIVE

The traditional and "as-is" business models no longer work and relevant in the new normal especially during the pandemic of COVID-19, IR4.0 disruptive technologies, shifting of customers behaviours, and globalisation. These have forced Institutions to rethink their entire business models and operations to remain sustainable and relevant to customers and stakeholders, where institutions can create innovative business model, extend global reach and increases growth, improves operation agility, creates more value and better experiences for customers and stakeholders. In other words, to transform Malaysian Current University (MCU) to Malaysian University-of-the-Future (MUotF) via digital transformation plan. This paper aims to include extending humanising education through Teaching & Learning (T&L), Research & Innovation (R&I) and Community Engagement (CE) to the world, developing a conceptual business model for MUotF, and leveraging on IR4.0/ digital capabilities to remain relevance and sustainable in the post-pandemic and digital era. The purposes are to (a) understand, and analyse the Malaysian Current University (MCU) strategic plan; and (b) ideate, prototype, and test the conceptual MUotF Business Model in order to remain sustainable and relevance in the post-pandemic and digital era.

4. METHODOLOGY

This study has adopted the system thinking method to analyse the current teaching and learning methods of universities, find related issues, future challenges especially post pandemic and its impact on the future business of universities followed by building conceptual business models using modelling frameworks, i.e. Business model canvas (BMC) and Value Proposition Design Canvas (VPC) to provide humanised education.

Furthermore, this approach contains conducting a literature review on the current teaching and learning methods of private university and similar system of other universities, and interviews for understanding the issues, requirements, needs, challenges and key problems; formulating initial business model options in solving the problems; and verifying the initial business model by communicating and cooperating with various customer segments, designing a solution by discovering and sensing what is required to be done to prepare UotF for post pandemic challenges through the use of business modelling tools such as Business Model Canvas (BMC) and Value Presentation Canvas (VPC). Also, considering the Fourth Industrial Revolution (4IR), MyDegital (Malaysia Digital Economy Blueprint), and the university roadmap and strategic plan. These tools help to formulate, design, and evaluate alternative business models for the higher education institutions (Dahlan et al., 2020). This will allow the university and other higher institutions to develop a conceptual business model towards digitalisation and e-learning. It will contribute to sharing knowledge, fulfilling Amanah and creating balanced graduates from around the world.

Moreover, conceptual business models can qualify UotF decision-makers, planners and other stakeholders (Governments) to continually evaluate, improve, and value offerings in order to remain present, relevant, sustainable, and competitive.

In addition, this model can be used by other universities in Malaysia or outside Malaysia to strategise their future Teaching and Learning methods, Research and Innovation, and Community Engagement. This will help them to overcome the great challenge of today's online knowledge and information that is available on the Internet. According to the private university, their main competitor for the next 10 years will be Google. The information and resources available on Google for learning purposes give no any other option to universities than going towards digitalisation and Teaching and Learning, Research and Innovation, and Community Engagement.

5. LITERATURE REVIEW

5.1. University of the future

Industrial Revolution IR 4.0 has a dramatical impact over all aspects of life; disruptive change hit all industries, a lot of business models became unviable, and paradigm shifts have been imposed for the sake of market survival. The prevailing

business model for traditional universities for the past century that managed to preserve a solid successful structure was a broad-based teaching and research institution, with a large base of assets and back office (Ibrahim & Dahlan, 2016). Universities of the Future is the preparation and planning for the challenges of post-pandemic and IR 4.0. This will prepare the universities to overcome these challenges by proposing a conceptual business model for centralised e-learning platform. The university has to choose a strategic business considering the developments in customer demands, digital technologies, delivery methods, knowledge democratization and funding (Zailan & Dahlan, 2019). The static models of Ernst & Young had captured and represented the University of the Future through business models. In view of the developments in consumer needs, emerging technology, distribution strategies, information democratisation and financing, universities typically have a range of strategic market choices to choose from (Ibrahim & Dahlan, 2016; Ernst & Young, 2012).

5.2. Mega Trends in Higher Education and IR 4.0

Educational facilities of all sorts are always attempting to improve and increase teaching and learning results for their students in order to promote technology in education. Employees of all ages must be continually learning, inquisitive, adaptable, flexible, compassionate, and creative in today's world.

Competitions have always been a driving factor in scientific fields, resulting in educational institution upgrading and growth, but they may also corrode the scientific community and degrade its values and goals. In the following sections, we will attempt to describe two global megatrends (globalisation, internationalisation, IT and ICT) that have an impact on higher education.

Globalisation is one of the phenomena that is taken for granted in the twenty-first century and has a significant impact on higher education. Globalisation is the result of a combination of elements including the global economy, new technology, the formation of a worldwide knowledge network, the importance of English, and others. Internationalisation is described as policies and programmes developed and implemented by governments and universities in response to globalisation. International trends have always had an impact on universities and academics as well as academic institutions involved in international research efforts (Yeganegi, 2018).

Furthermore, the IT and ICT revolution has an impact on academia. These technologies, when combined with remote education and other technology advancements, are projected to completely destabilise traditional colleges. Traditional universities, in our judgement, will not vanish overnight; rather, they will undergo significant adjustments. Remote education is a major component of various courses, such as management and IT degrees. The Innovative Open Resources programme at MIT was the catalyst for the open resource movement (Yeganegi, 2018). As a result, IT and ICT will have a big influence in the next years, and the future university model must be founded on these developments.

The world has entered a new era, in which the confluence of several technologies is automating not just the progress but also knowledge. There's still work to be done in classifying and naming the event we're all seeing. The term "Industry 4.0" was coined in the early 2000s by the German manufacturing industry. Furthermore, the current developments are occurring because humans have developed the computing power to store large amounts of data, allowing machine learning to be implemented (Gleason, 2018).

In addition, the convergence and amplification of integrating technology, developments in artificial intelligence, automation, and robotics, reinforced by the integration of billions of mobile devices with access to data and information, characterise education for the 4th Industrial Revolution (Timothy, 2019).

Digital economies, in general, changes in human growth and activities such as living, learning, and working, have affected biotechnology advancements in the globalised globe. As a result of advances in skill requirements and job structure, family work and social inclusion will become more integrated, balanced, and consistent.

5.3. *Balanced and humanized education*

Educational balance may refer to the ideal that educational organisations and the people who received the education receive an equal treatment in educational activities, as well as the educational policy and legal system that ensure its actual operations, as well as the thought of fair education and the principle of educational equity. The goal of balanced educational development is to achieve educational equity and fairness (Zhai Bo, 2007).

Furthermore, balanced education may be defined as a method of leading, training, and teaching students not only academic courses but also manners, social behaviour, and preparing them for real-world work and their role as Allah S.W.T.'s khalifah. Students will be taught not only books and readings, but also practical skills that will help them obtain work. Aside from that, students must learn to use their knowledge and abilities to the improvement of society and others. This will allow them to fulfil their role as Allah S.W.T.'s khalifah. As a result, academic institutions should make balanced education a priority in order to supply society with qualified individuals who can contribute to the enhancement and stability of society.

"We are sure to miss its ethos and misunderstand its meaning unless education is humancentric and goes beyond simply economic considerations and bottom lines" (DA Razak, 2019, SAF, 2021). After all, presenting a human face to diversify basic education has become a vital issue of justice and human dignity. Learning and communication have become more humanised. Human Values, Human Discoveries, Human Relationship, Human Technology, and Human Development are all incorporated into the humanisation of learning and communication (Wegrif, 2019).

5.4. Teaching and Learning

HEI teaching and learning will likely look quite different in 50 years, but the present environment clearly suggests that change will be a continual feature. Teachers must thus think outside of the established approaches if they want to keep up with the current speed of change. Students are increasingly being pushed towards a more student-centered learning approach, in which higher education is tailored to each individual student's needs, highlighting the potential contribution that technology advancements may make to learning that is student-centered. People are realising that education doesn't have to be restricted to a teacher in a classroom (Wind 2019). In the future, students' learning experiences will be "customisable," thanks to the new teaching and learning approach that places emphasis on individual preferences. To illustrate, those who learn best visually may do so, but those who learn best graphically can do so as well.

5.5. Innovation and Research

Higher education is in the midst of a paradigm shift. Technology and new approaches to learning are reshaping how educational programmes are delivered, and how we learn as a result. However, there is no magic pill. The conventional lecture hall is still the primary mode of education, and no new methods have been extensively advocated or embraced. For the next several years, the McKinsey report claims that a dozen technologies will have a substantial impact on the economy and society, including genomics, energy storage, and robotics. In 2025, these developing technologies might have an economic effect of \$14 trillion to \$33 trillion, which is one-third of global GDP.

5.6. Community Engagement

It's an exciting moment to be in the industry. First, many governments and policy-makers are starting to think about suitable policies to assist this endeavor. For the 12th Five-Year Plan, the government of India has set up a task group to give suggestions to "strengthen community participation of higher education institutions." Malaysia, South Africa, and Tanzania have all undertaken similar efforts.

Research organisations in the United Kingdom are expected to establish a strategic commitment to public engagement and to recognise and respect academics who participate in public engagement activities, according to the "Concordat for Engaging the Public with Research" released in 2010. More than a dozen events will be held on the topic of university civic involvement in the coming months. Global University Network for Innovation's (GUNi) forthcoming conference and the GUNi Report, Higher Education in the World are both focusing on this topic. With the Vice-Chancellor of the Universiti Sains Malaysia as the President, the Asia-Pacific University--Community Engagement Network (APUCEN) was inaugurated in July 2011. Thammasat University in Chiang Mai, Thailand, will conduct its second conference, "University--Community Engagement for Empowerment and Knowledge Creation," from January 9 to 12 next year.

Reducing the reliance of HLIs on government resources while also asking all stakeholders who directly benefit from the higher education system to contribute will help to ensure financial sustainability and a smooth transition from the current, highly centralised HLI governance structure to a model that places an emphasis on gaining autonomy within the regulatory framework (Ganapathy, 2016).

5.7. Sustainable Development Goals 4, 5 and 8 (SDGs)

SDG 4 focusses on education with an aim to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (United Nations [UN], 2015). Target 4.3 focuses on ensuring that men and women have equal access to technical, vocational, and postsecondary education, including university. Furthermore, SDG 4 goals are focused on a variety of concerns such as child care, pre-primary education, and early childhood development; nevertheless, certain developing countries, such as Africa, have faced high levels of poverty, armed conflict, and other calamities. Furthermore, more than half of the pupils fail to fulfil the study's basic competency levels (SDG4). Furthermore, colleges may give humanised education to all people who cannot pay it by utilising contemporary technologies and chances. This may be accomplished by utilising e-learning systems (Ferguson & Roofe, 2020).

The attainment of equal and high-quality education for all confirms that education is one of the most powerful and well-tested tools for the long-term development. Furthermore, by 2030, all males and females will have access to free education. This also aims to equalise access to suitable skills courses (SDG5), decrease gender and income disparities, and provide equitable access to high-quality higher education.

5.8. Malaysia Education Blueprint 2015-2025 for Higher Education and MyDigital

Mydigital is Malaysia's 12th initiative for Malaysia Digital Economy Blueprint. In other terms, it is a national initiative in Malaysia aimed at transforming the country into a digitally-driven, high-income economy and a regional leader. Another national initiative i.e. The Malaysian Education Blueprint 2015-2025 (for Higher Education) is a strategy to digitally modernise the system and keep it up to date with the newest technologies. Over the previous 10 years, Malaysia's higher education system has undergone substantial transformations and has achieved considerable successes and benefits, including:

1- Comparing to a global standard: The considerable increase in scientific research throughout the world as a result of research and innovation, higher education accomplishments, and educational quality.




2- Talent: The goal of higher education is to develop local talent while also providing a high-quality education that attracts foreign students. Nonetheless, global development is the primary emphasis of the Ministry of Education's strategic

strategy. Disruptive technologies such as artificial intelligence (AI), robotics, the Internet of Things (IoT), and information automation, for example, are reshaping the business and social landscape, necessitating a fundamental transformation of how the higher education system and higher learning institutions (HLIs) currently operate in order to prepare Malaysian youth to thrive in this complex and ever-changing future.

3- Balanced education: graduates must have humanisation education, which includes both knowledge and skills, as well as spiritual education, such as AKHLAK and AMANA (Ganapathy, 2016). As a result, the Ministry began preparing the Malaysia Education Blueprint 2015–2025, a trend toward future planning 2015–2025 in collaboration with stakeholders. The end result is a roadmap built by Malaysians and the involving stakeholders - Malaysian and global education professionals - that will prepare Malaysia for the last leg of its journey to becoming a high-income nation (Ganapathy, 2016).

4. MyDigital: The 12th Malaysia Plan (12MP) aims to maximise the potential of the digital economy by promoting the use of modern technology, notably that of the Fourth Industrial Revolution (IR 4.0). Research, development, commercialisation and innovation in the fields of digital economy and IR 4.0 will be stepped up, as will the need for new people and skills. It is predicted that by 2025, the digital economy would contribute 22.6 percent of the country's GDP and generate 500,000 jobs. A total of RM70 billion in new investments in the digital industry are expected to be attracted as a result of the MyDIGITAL projects, both domestically and internationally.

The future Malaysia envisioned by MyDIGITAL will see the **rakyat** enjoy improved digital literacy, more high-paying jobs, improved social wellbeing and environmental sustainability; **businesses**, including micro, small and medium enterprises (MSMEs) that form the backbone of Malaysia's economy, will enjoy greater opportunities to build and expand locally, regionally and even globally through digital revenue streams, more opportunities to integrate between economic sectors, and to be more cost efficient through shared economy. A digitally-enabled **government** will provide integrated end-to-end online government services which are more efficient, effective and transparent. Malaysia in 2025 will advance to achieve the following targets:

 Rakyat	 Business	 Government
<ul style="list-style-type: none"> • Creation of 500,000 new jobs • 100% household with access to internet • All students to have access to online learning 	<ul style="list-style-type: none"> • 30% uplift in productivity across all sectors by 2030 • 22.6% of digital economy to Malaysia's GDP • 875,000 micro, small and medium enterprises (MSMEs) adopt eCommerce • Attract 2 unicorns (home-grown or foreign) • RM70 billion investment in digitalisation • Increase the number of start-ups to 5,000 	<ul style="list-style-type: none"> • 100% civil servants to possess digital literacy • 80% end-to-end online government services • All ministries and agencies to provide cashless payment option in 2022 • 80% usage of cloud storage across the government in 2022

This year's 2nd Malaysia Digital Economy Summit 2021 was organised by the KSI Strategic Institute for Asia-Pacific. The virtual summit, titled "Reinventing the Digital Economy: The Key to Success Post-Crisis," drew more than 200 participants from the public and commercial sectors, academia, trade organisations, and the digital sectors.

5.9. Impact of Covid-19 and Unemployment

After starting off as a local health catastrophe, Covid-19 has grown into an international health epidemic with significant economic consequences, at a pace and magnitude never previously seen. Despite the fact that the pandemic's chain of reaction is still ongoing and spreading over the globe in the form of 2nd and 3rd waves (Chan & King, 2020) or possibly 4th waves, economists have yet to adequately evaluate the pandemic's consequences (Ravindran, 2021; Whyte, 2021). With the exception of glove-making and pharmaceuticals, Covid-19 showed the basic weaknesses in every industry in Malaysia, as well as the instability of employment. Companies and industry players have used unpaid leave and layoffs in order to cut operating expenses so that the firm can weather this financial storm. Some of these ex-employees were unable to make it through the difficult circumstances. As a result, several of them ended up killing themselves instead of coping with the loss of a steady income. According to Blustein et al., unemployment

has negative repercussions on mental health, economic well-being, and social well-being for both individuals and communities (Blustein et al., 2020; Ferreira et al., 2015). Adding to the despair of being retrenched was the government's lockdown or Movement Control Orders (MCO), which accompanied the lockdown, as emotions of isolation also followed the lockdown.

The present pandemic's death statistics may be utilised to prove a long-term influence on health caused by economic hardships created by previous pandemics. But what about the effects on ordinary life when individuals lose their jobs? In this pandemic, the quick, severe, and widespread economic damage produced by the application of the MCO to lower the daily infection spikes is one of its most striking aspects. Unlike earlier pandemics, such as H1N1 swine flu 2009-2010 or the Spanish flu of 1918, this pandemic may have less similarities (Newman, 2020). The immediate economic harm caused by the 1918 epidemic, for example, is little compared to the devastation caused by Covid-19 right now. Despite the fact that this pandemic may provide us a glimpse into the long-term social and psychological health repercussions (direct effect), we must go elsewhere to assess the long-term ramifications of pandemics due to economic downturns, notably for employment purposes (Blustein et al., 2020; Su et al., 2021).

Unemployment may be generally viewed as an economic issue, but its impacts are actually greater than that as it affects mental health, stress levels and consequently an individual's quality of life, as well as having an impact on community. As it is, staying employed during economic hard times is one of the most challenging things in life, and when unemployment is prevalent, finding work is doubly difficult. Unemployment is regarded as one of the major discrete and objective life events that necessitate some social or psychological adjustment on the part of the individual in the stress literature (Wheaton, 2009). The stress process model (Pearlin, 1981, 1989) is a common explanation for the relationship between unemployment and mental health that is significant in the present scenario.

5.10. Entrepreneurship

Entrepreneurship has the potential to educate pupils and help them uncover their unique strengths. Even a decrease in entrepreneurial goals in this situation might be socially beneficial, as it could imply that the future labour market pairings will be better. As a result, the University of the Future must place a strong emphasis on encouraging and teaching students to pursue careers as entrepreneurs. This will assist students in many developing countries in creating careers for themselves and their communities. This will also be in line with SDG 8, which encourages inclusive, long-term economic growth, full and productive employment, and decent work for all (Frey, 2017).

Entrepreneurship may have a variety of outcomes. To begin with, entrepreneurship is likely to have an impact on knowledge and skills. The majority of tertiary education courses focus on the teaching of techniques, concepts, and facts. This component, in our opinion, lowers the cost of starting a business. The

skills and information imparted, on the other hand, will be general (e.g. knowing how to write a business plan is also helpful in an established corporation). As a result, such schooling may not have a significant impact on entrepreneurial inclinations. However, where entrepreneurship education influences students' attitudes and perceptions, it may influence entrepreneurial intentions and, as a result, behaviours (von Graevenitz et al., 2010).

6. INITIAL BUSINESS MODEL

Alternative business models for the UotF were understood, analysed, formulated, and built using design thinking and business modelling tools such as the Business Model Environment Map, Business Model Canvas, and Value Proposition Design Canvas. Universities will have to adapt to this new economy at a rate that is unprecedented in higher education. While universities will always have their fundamental goal of teaching the next generation and developing new kinds of knowledge, they must also embrace their increasing role as the engines of innovation and catalysts for economic growth. This economic digital revolution can be integrated in universities by changing the Teaching and Learning Methods, Research and Innovation, and Community Engagement. There are several ways in which the institutions may play an increasingly crucial role in our innovation ecosystems and economy as the digital revolution takes hold.

6.1. Competency-Based Learning

While Competency-Based Education is not necessarily an example of innovation in higher education, its implementation may lead to additional innovations, such as the use of technological tools that allows students to customise their learning experience, for example. As asynchronous learning is defined, it helps us appreciate the necessity for asynchronous access to this information, particularly if this access is not via an antiquated institution learning management system, but rather something more genuine to the student, maybe even accessible on their own mobile devices.

Competency-Based Education is more student-centered and an efficient approach to education is needed, at least in terms of the learning process. One of the most pressing issues in higher education—out of control costs—will be helped in any way by this. The more efficient something is, the more beneficial consequences it will have on other aspects of life.

6.2. E-learning Trends/Flipped Classroom/ Video Streaming

When it comes to the most apparent and prevalent type of technology innovation in higher education, video is undoubtedly the most prominent (OECD, 2016). Other advancements may be made possible thanks to video, of course. What would be an illustration of this? The college lecture seems to be under danger from the flipped classroom approach. The same may be said about YouTube. It's more important than ever to curate the outstanding stuff that's already been created and made available to the public. Honestly, this isn't all that exciting. In higher

education, there is a dearth of leadership, with each institution or league looking out only for its own interests.

6.3. Open Curriculum

Council on Education Technology (CET) members were tasked by MIT provost Robert Brown in 1999 with developing the university's strategy in the remote learning/e-learning arena, and the OCW idea was born. A new paradigm for information transmission and cooperation among academics throughout the globe has been established by MIT OpenCourseWare, which adds to a "shared intellectual commons" in academia, fostering collaboration inside MIT and among other academics. Dick K.P. Yue, Shigeru Miyagawa, Hal Abelson, and other MIT faculty were involved in the project's inception. A Plone-based content management system replaced a proprietary Microsoft Content Management Server-based content management system serving MIT OCW in mid-2010. Planning tools, content management system (CMS), and the MIT OpenCourseWare content distribution infrastructure are all part of MIT's "large-scale digital publishing infrastructure." In the beginning, most of the course videos were in RealMedia format. YouTube became the principal digital video streaming channel for OCW in 2008, and the OCW site was re-integrated with YouTube video. Offline downloads of OCW video and audio files are also available on iTunes U and the Internet Archive. With the help of Irynsoft in 2011, OCW released an iPhone app called LectureHall.

6.4. Changing revenue sources for institution funding

In light of the worldwide economic implications of the COVID-19, current efforts to support higher education institutions via state financing, federal subsidies, and other measures will have to be expanded up quickly—along with major cost-cutting (World Bank Group Education, May 2020). This is one of the most significant advances in decades, in terms of developing new revenue models for colleges. Furthermore, e-learning must be included in any instances of innovation in higher education.

6.5. Digital textbooks

Free, open-source textbooks, digital textbook rental, and the like are very small innovations, yet they are nevertheless innovations. Regardless of the long-term effects, this opens up textbooks to a wider audience than ever before much as MOOCs did.

6.6. Free Education for Less fortunate People

The governments in many developing nations are unable to satisfy the educational demands of their population due to lack of financial resources or political willpower. Some parents in low-income nations have taken matters into their own hands and paid for their children's education. It is true that some parents find it difficult to pay for their children's education and other necessities. Payments like this may not be optimal long-term, but they are preferable than the alternative,

which is to provide no education at all to children. The governments and universities must come up with a plan to have a Free Education for less fortunate people.

6.7. Virtual And Augmented Reality

These are almost certainly a major influence in the future of all education in some form, but far from ready for widespread implementation. How about this as an illustration? Students can control a chemical factory using augmented reality.

6.8. Smarter Learning Management Systems

In many situations, the demand and the technology for the systems are there, but they're in a state of disarray at the time.

6.9. Artificial Intelligence

Artificial intelligence (AI) is on the horizon, but it's not quite there yet, much like virtual reality. At universities throughout the globe, it is quickly becoming a major issue of discussion and research. AI has long been the subject of predictions from a variety of sources, including science fiction writers, futurists, and filmmakers. AI hasn't made much of a splash yet, but it's already permeated many facets of our everyday life. AI, in one form or another, is always all around us, from the smart sensors that help us snap flawless photos, to the automated parking functions in automobiles, and to the often-infuriating personal assistants in smartphones.

6.10. Fostering entrepreneurship

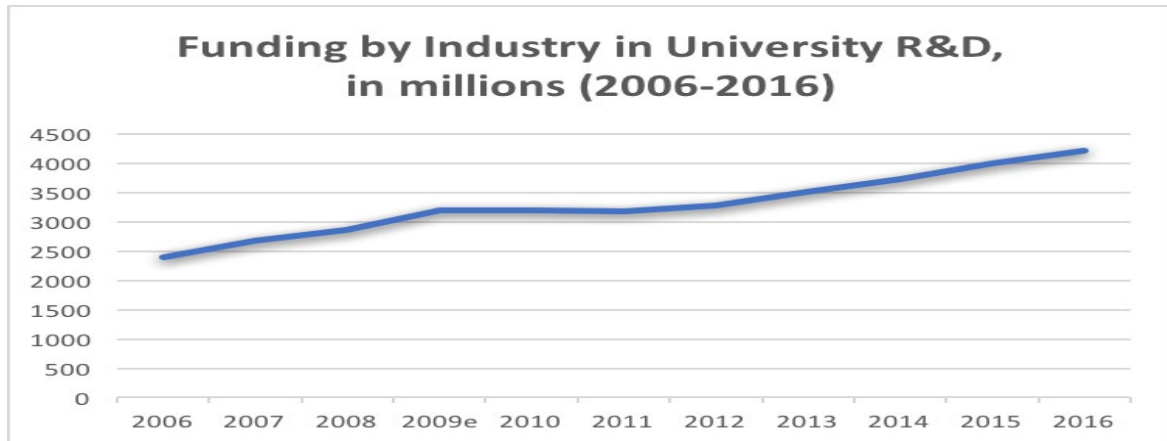
Universities have to embrace entrepreneurship as an integral element of the educational process in order to foster a climate that encourages and supports the development of creative thinking. According to the Global Consortium of Entrepreneurship Centres, more than 200 colleges and universities have established innovation or entrepreneurship centres. Regardless of what topic they study, students come to college with the goal of making a positive impact on the world via their own businesses, social enterprises, and other entrepreneurial endeavours. Similarly, we observe a similar level of enthusiasm and energy among young professors, who anticipate to create new technologies or work in startups as part of their academic career.

6.11. Encouraging collaboration with the private sector

Universities must also forge new alliances with major corporations, foundations, and other research-intensive institutions in today's competitive climate. It's not only about moving information from the lab to the field in these relationships. Foundational research is supported through these grants, and students and professors are able to exchange ideas with some of the world's greatest thinkers (Karine Tremblay, Diane Lalancette, Deborah Roseveare, 2021). They also assist to prepare students for a quickly changing world.

In light of the high-value, high-return that these partnerships provide, corporations are beginning to take notice. Approximately \$2.4 billion was invested in university research and development in 2006, and that amount grew to more than

\$4.2 billion in 2016, according to the statistics provided by the National Science Foundation in the United States.



6.12. Promoting diversity and inclusion

The success of university spin-offs and business relationships doesn't convey the whole picture. We need to keep our emphasis on bringing varied viewpoints into our work while this economic upheaval accelerates. To ensure that the benefits of technological advancements are spread across the whole economy, universities may play an important role.

6.13. Supporting community university engagement

All institutions should include Community-Based Research Units, Science Shops, and other entities that provide brokering assistance and action research involvement. Every student should be able to take part in community-based learning initiatives. The way universities do business and conduct research should include the large-scale and collaborative discussion structures with community partners on vital and complicated challenges confronting our communities. Recognising and rewarding students, faculty, and administrators for their contributions to research and community involvement at community universities is an important step towards fostering a culture of excellence. Communities of practise and coordinated advocacy for Community University Engagement should be established across the world, with the goal of replacing the simple comparison rankings of previous years. Initiatives that have both scientific and social effect should be supported by research funders, and cooperative research projects involving civil society organisations and conventional research institutions should be given significant emphasis. Universities in low-income nations should get a lot of attention from international financial bodies that promote higher education.

6.14. Research Results and Findings

The first and most notable finding of the interviews and the literature review was the fact that the universities are required to change their current business model to

enhance Teaching & Learning, Research & Innovation and Community Engagement and stay in the education business. The other fact is that most of the industries including the education are transforming to the digitalisation, most of these processes have been accomplished virtually. This also leads to the fact that the technology sector will dominate the employment opportunities in the next decade. Nevertheless, the COVID-19 pandemic has already accelerated the global movement towards digitising most of people's daily life tasks and businesses. On the other hand, the current situation in Afghanistan needs immediate action to reach out to those students who are supposed to be at university but are at home due to the recent huge change in political settlement. The most affected ones are the female students. Though the new government gives promises to open universities soon with remarkable change in the way the universities were operating, it seems hard to believe they will do so because of the lack of resources and expertise they have. Therefore, all those we have shared our idea of this digital platform are highly interested and have given positive feedbacks.

Participation in the online teaching activities during this time period was unquestionably facilitated by the ownership by university lecturers and students of at least one smartphone equipped with a web subscription. Students were able to participate in the online courses and seminars considerably more actively as a result of the ease with which they could access them from almost anywhere without the need for a physical presence.

Furthermore, online platforms serve as a vital tool for both online university education and hybrid education, as they enable the holding of courses as well as the access to course materials and seminar materials, the completion of tasks assigned to students by their professors, and the successful testing and examination of students. If teachers are constantly adapting their teaching methods, this has a negative impact on students, as they are able to go online to the platform during courses and seminars to "check" the correlated attendance without opening their cameras, making it difficult to co-opt them for teaching purposes.

Using a virtual learning environment (VLE), an interview was conducted at one of these private universities in Malaysia. The research concluded that the teaching and learning process was made simpler and more engaged with the use of the blended teaching technique. Students and professors were able to exchange resources and focus on self-learning. The research employed the VLE programme to teach the blended learning strategy. Students were more engaged as a result of blended learning, as seen by the higher proportion of students who answered questions. According to this research, contests on the VLE should be launched to encourage students to participate.

Another study was named "Collaborative Learning Using VLE.". There was a specific emphasis on students in higher education (HEI). Using interactive teaching has a number of benefits, including making learning more interesting, allowing students to review material they don't grasp, and helping students improve their ICT abilities. Computers and the internet were used by professors to implement a logical

approach to learning. Text widgets, quizzes, training (assignment), and random names and times were all employed in the application. As a result, teaching became more engaging and students were less stressed out.

Moreover, prior expertise was a benefit of the online university education, facilitated by both private and public institutions' e-learning platforms. Teacher support materials for classes and seminars were often posted on these platforms until 2019, when the hybrid system was generally allowed to run. A public health measure introduced by the COVID-19 pandemic was the lockdown, which resulted in isolation at home and, in the case of university education, educational activities being held via the Internet system as a result of the outbreak.

6.15. Environment Map (EM) Business Model

Environment Map (EM) Business Model which depicts the external influences, such as megatrends, might have an effect on the University of the Third Frontier. Leaders of universities must rethink and invent new business models to be relevant and operate at reduced costs in the age of 4IR and digital technology, for example. These new prospects will only be exploited by companies who can develop digital platforms and new business models to take advantage of them. The emergence of new higher education providers with creative business models that capitalise on digital capabilities in a novel way, at the same time, trigger more upheaval in the HE markets. The competition ability of student markets and the availability of money are two of the most significant issues facing the Uoff in order to thrive in the New Digital Age.

6.16. Business Model Canvas (BMC)

The Business Model Canvas (BMC) is a strategic management tool that may be used to rapidly and simply describe and convey a business idea or concept to other people and organisations. The right side of the Business Model Canvas (BMC) is concerned with the consumer (external), while the left side of the canvas is concerned with the business (internal). Originally published as part of his 2004 thesis, "The Business Model Ontology - A Proposition in a Design Science Approach," Alexander Osterwalder is credited with the development of the business model canvas template. Since then, the business model canvas template has been taught at business schools and refined to better suit the needs of increasingly specialised enterprises.

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
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<ul style="list-style-type: none"> * Universities * MOE (Ministry of Education) * Business Associations * Investor Groups * Regional Development Agencies * Software Supplier * Content Creators * IT Staff * Platform Providers 	<ul style="list-style-type: none"> • Knowledge creation on a digital platform • Student Scholarship • Online Lectures & Library • Students mentoring • MOOC- massive open online courses • Social contributing • Balanced Education development • Entrepreneurship Education Programmers • Enhance career &reskilling and upskills • preparation for technological change • training for a particular vocation 	<ul style="list-style-type: none"> • Balanced & Entrepreneurial Education. • Secured Digital Platform Content. • Lifelong Learning. • Freemium education model • Learning Flexibility. • Friendly and international campus environment • Scholarships. • Trusted & innovative institution • Awareness programs • Enhance job opportunities • Technical and Vocational education. • Skilled workers • Better education system • Educated nation 	<ul style="list-style-type: none"> • Advisory Alumni University Social Networking • Motivation programs • Training Course. • Educational events and Exhibitions • Digital Platform • MOOC- massive open online courses • Coaching & Mentoring 	<ul style="list-style-type: none"> • Students • Parents • Researches • Alumni • Universities • Donors • Government • Employer
<p style="text-align: center;">Cost Structure</p> <ul style="list-style-type: none"> * Faculty and instructor salaries * Administrative Staff * Product Developments * Marketing * Variable Costs * Cost Driven * Expensive Technology 	<p style="text-align: center;">Key Resources</p> <ul style="list-style-type: none"> • Human Resource (Staff – Lecturers- Trainers) • University Center for Community • IT resources such as digital platform of the Programme • Alumni • Financial • Working Labs • Accrediation • Research • Digital Contents/Instructions 	<p style="text-align: center;">Revenue Streams</p> <ul style="list-style-type: none"> * Tuition * Free * Research grants * Government Capital grants * Third Party Funding * Per User Fee 	<ul style="list-style-type: none"> • Channels • Blackboard Classroom Based Teaching • Digital Platforms. • Social Media. • TV Shows. • Road Shows • Open days and Events. • Partnerships and Agents • Education Exhibitions • MOOC 	

a) Key Partners

The Key Partnerships are used to describe the network and partners that make the conceptual Programme work. The key partners include (1) Ministry of Higher Education and Ministry of Education which help and support the Programme objectives and provide facilities (2) Sponsors for providing scholarship, financial assistance and sponsoring training and education for youth, (3) Universities to help the Programme in terms of providing teaching materials and online facilities such as e-learning, (4) Ministry of media to raise awareness about the importance of the education and promote this programme (5) Government to promote job creation and financing, and (5) IT Companies to do digital infrastructure.

b) Key Activities

The Key Activities describe the most important activities of Programme to be performed in order to deliver the value propositions offered by the Malaysian UoTF to its customer segments. The key activities include (1) Knowledge creation on a digital platform; (2) Student Scholarship; (3) Online-Lectures & Library; (4) Students advising; (5) Social contributing; (6) Balanced education development; (7) Digital Entrepreneurship Education Programmers; (8) Preparation for technological change; (9) Training for a particular vocation; (10) Enhance career, reskilling, and upskills; and (11) MOOC- Massive online courses.

c) Key Resources

The Key Resources describe the most important assets required to make the Programme. The key resources include (1) Alumni who can coach and train youth"s entrepreneurship skills, (2) Human resources such as lecturers and trainers, (3) IT resources such as digital platform and social media, (4) Financial, and (5) Working Labs.

d) Value Proposition

The Value Proposition describes the value of the services that was provided to satisfy the customer segments in the project, and also what problem you will solve with your project. This includes balanced and entrepreneurial education, educate youth to become successful entrepreneurs, secured digital platform content, lifelong learning, humanising and relevant education, freemium education model, learning flexibility, friendly and international campus environment, scholarships, digital infrastructure, trusted and innovative institution, raising awareness about the importance of the education, enhance job opportunities, skilled workers, better education system, and educated nation.

e) Customer Relationships

The Customer Relationships Building Block describes the types of relationships established with the customer segments. The types of customer relationships include (1) Motivation programmes; (2) Digital platforms such as mobile app, E-learning and E-marketplace; (3) Training course; (4) Educational events and

Exhibitions in Egypt; and (5) Massive open online courses-MOOC, Coaching & Mentoring.

f) Channels

The Channels explain how this programme concept communicates with its consumer segments and reaches them in providing the value proposition. The following are the main channels of this Programme: (1) Social Media network – social is the most powerful medium to attract customers, (2) Digital platform - this platform should be attractive and easy for customers to know about this Programme, (3) TV Shows, (4) Road Shows, (5) Open Days and Events, (6) Partnerships and Agents, (7) Education Exhibitions, and (8) Printed Materials.

g) Customer segments

This section specifies the clients who will be served in order to construct a successful and efficient business plan. The customer segments define the different groups of people and organisations of this project and Malaysian UotF aims to reach and serve. The business model must be designed with a deep understanding of the customer needs. The focus of the customer segments are: (1) Students (Undergraduate students - Drop out Students - Alumni), (2) Poor students, (3) Universities, (4) Donors, (5) Government, and (6) Employers.

h) Cost structure

The Cost Structure describes all costs incurred to implement and deliver the value propositions to its customer segments by the UotF. This includes the costs in executing the key activities by having the key resources in carrying out entrepreneurship programme, scholarship, staff salary, digital infrastructure cost, cost of activities and workshops, student service cost, digital transformation cost and marketing expenses.

i) Revenue stream

The revenue comes from the customer segments. That is to cover the running expenses and to execute the Programme. This includes (1) Study fees, (2) Training courses and workshops fees, (3) Donation funds, (4) Governments grants, (5) Sponsorship, and (6) Freemium.

6.17. Value Proposition Design Canvas (VPC)

There are a number of different types of colleges and universities to choose from. From the Government institutions to the "Private," their qualities span from private to public and from community colleges to the elites. Business models and value propositions differ for each of these kinds. Since colleges and universities are likely to evolve over time, a categorisation system like this one is useful in our contemporary situation. This is because a typology of institutions is likely to result in a typology of business models and value propositions.

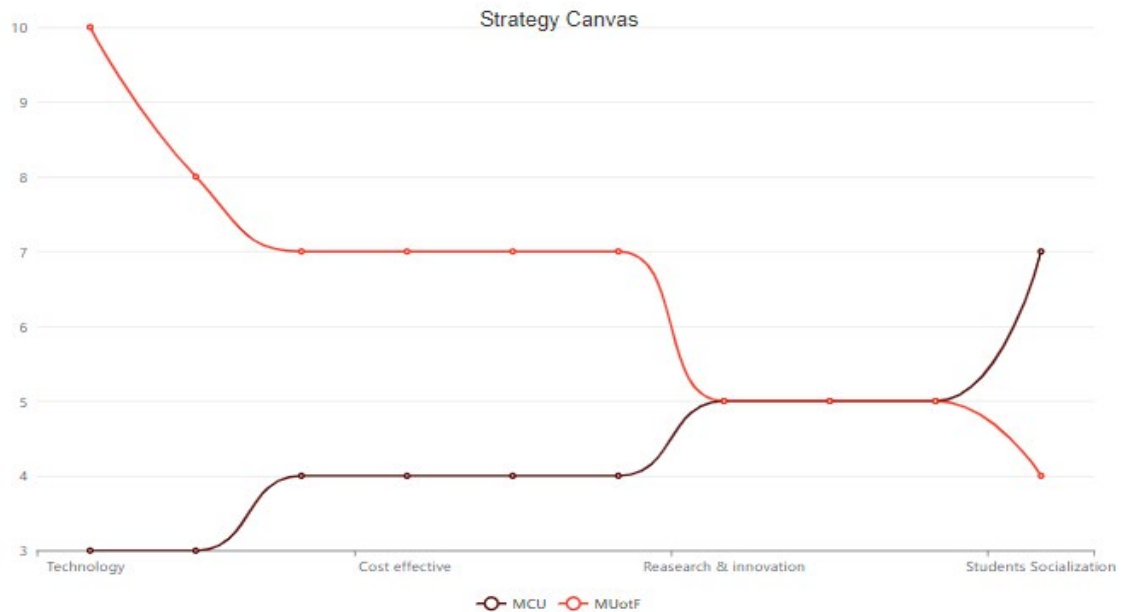
Customers	Customer Job	Pain	Gains	Services	Pains relivers	Gain Creator
Undergraduate Students & Dropout Students	<ul style="list-style-type: none"> • Learn new knowledge & skills • Learn creativity • Attend mentoring class • Acquire knowledge, skill & human values • Entrepreneurship education & skills 	<ul style="list-style-type: none"> • Education Occupation mismatch • Weak infrastructure for innovation and Entrepreneurship skills. • inadequate curriculum & teaching methodologies • Poverty • not equipped with the skills and knowledge • Time consuming 	<ul style="list-style-type: none"> • Free access to online education & materials. • Strong Innovation System • Educational programme and awareness. • Academic qualifications • Knowledge & High level skills • free education • enhance career and upskills • Ready for workplace • Learning flexibility • Self-reliance • Strong Innovation System 	<ul style="list-style-type: none"> • Digital learning platform. • Entrepreneurial Education. • Online facilities • Quality education • Scholarships. • Qualified Tutors • preparation for technological change • training for a particular vocation • MOOC-massive open online courses 	<ul style="list-style-type: none"> • Cheap tuition fees • Flexible schedule • Lifelong Learning. • E-learning • Technical and vocational education 	<ul style="list-style-type: none"> • Awareness programmes • Training Course • Mentoring class • Enhance Job opportunities
Alumni	<ul style="list-style-type: none"> • Learn entrepreneurial skills • Acquire knowledge, skill & human values • training course • Create jobs • Learn creativity • Business ideas 	<ul style="list-style-type: none"> • Unqualified graduates • Weak infrastructure for innovation and Entrepreneurship skills. • lack of job opportunities • lack of experience • Unqualified Labor • not equipped with the skills and knowledge 	<ul style="list-style-type: none"> • lifelong learning • Creating jobs • Self-reliance • Strong Innovation System • Knowledge & High level skills • Job opportunities • Ready for workplace 	<ul style="list-style-type: none"> • Digital learning platform. • Entrepreneurship training. • Enhance job opportunities • preparation for technological change • training for a particular vocation 	<ul style="list-style-type: none"> • Lifelong Learning. • Entrepreneurship skills • MOOC-massive open online courses • Technical and vocational 	<ul style="list-style-type: none"> • Educational programme and awareness. • Mentoring class • Events and conferences
Universities	<ul style="list-style-type: none"> • Creating an innovation system • Upgrade curriculum • Training the lecturer • Digital infrastructure • Sponsorship 	<ul style="list-style-type: none"> • Unqualified lecturers & curriculum • Poor digital education platform • Poor innovation system 	<ul style="list-style-type: none"> • entrepreneurial universities • launching pad for innovation • Qualified lecturers & curriculum 	<ul style="list-style-type: none"> • Balanced & Entrepreneurial Education. • Digital infrastructure • Training courses for lecturers • Innovation System 	<ul style="list-style-type: none"> • entrepreneur lecturers • Producing balanced and entrepreneur's youth • E-marketing and e-learning • MOOC-massive online open courses 	<ul style="list-style-type: none"> • Sponsorship • Educational Events

		<ul style="list-style-type: none"> • Poor finance system • Poor Entrepreneurial skills 	<ul style="list-style-type: none"> • Secured Digital Platform • Education-Occupation matching 			
Donors	<ul style="list-style-type: none"> • Provide Sponsorship • Monitoring the activities • A trustworthy platform for donation and financial assistance 	<ul style="list-style-type: none"> • Untrusted institution • Poor digital education platform 	<ul style="list-style-type: none"> • Helping the Ummah. • Resolving financial problems • Developed society 	<ul style="list-style-type: none"> • Secured Digital Platform • Trusted & innovative institution 	<ul style="list-style-type: none"> • Organizing effective training • Sponsorship • Delivering best facilities 	<ul style="list-style-type: none"> • Making a contribution to society's wellbeing • Educated nation
Government	<ul style="list-style-type: none"> • Provide financial support • Job opportunities 	<ul style="list-style-type: none"> • Financial crises • Lack of skilled workers • low level awareness of citizen 	<ul style="list-style-type: none"> • Educated citizen • Economic growth • awareness 	<ul style="list-style-type: none"> • Produce fresh graduates • Skilled students, staffs and lecturers • Trusted & capable institution 	<ul style="list-style-type: none"> • Universities produce more skilled citizen 	<ul style="list-style-type: none"> • Skilled workers • Better education system • Educated nation • high level awareness
Employer	<ul style="list-style-type: none"> • Sharing knowledge & increase youth opportunity for jobs & entrepreneurship • Experience letter 	<ul style="list-style-type: none"> • Allocated time • Youth competency & level of cognitive 	<ul style="list-style-type: none"> • Personal experience & networking • Increase employability for youth 	<ul style="list-style-type: none"> • Consultation support & smooth replacement • Quality digital platform & Easy procedures • Statistics & student performance reports 	<ul style="list-style-type: none"> • Flexible appointment & Quality syllabus & teaching materials 	<ul style="list-style-type: none"> • Industry relevant skills • Humanising education
Students	<ul style="list-style-type: none"> • Attend mentoring class • Acquire knowledge, skill & human values • Entrepreneurship education & skill 	<ul style="list-style-type: none"> • High tuition fees • Expensive academic materials • Lack of job opportunities • not equipped with the skills and knowledge 	<ul style="list-style-type: none"> • Academic qualifications • Knowledge • High level skills • free education • enhance career and upskills 	<ul style="list-style-type: none"> • Qualified lecturers • Recommendation on scholarships • Good campus facilities • Good mentoring • MOOC 	<ul style="list-style-type: none"> • Student scholarship • Fernium education • Study loan • E-learning • Technical and vocational education 	<ul style="list-style-type: none"> • Quality education • Balanced graduate • Mentoring class • Enhance Job opportunities

6.18. Current Malaysian University (CMU) vs Malaysian University of the Future (MUotF)

As mentioned earlier, current universities need a strategic change and transformation. The literature explored the weakness of the current business model in Malaysian higher education. Therefore, there must be a solution for the university of the future to overcome current challenges. UotF must be relevant to currently digital world and the situation that is being brought by the Covid19 pandemic.

Hence, the below strategy canvas represents the current and future business strategies for Malaysian universities.



7. CONCLUSION AND FUTURE WORK

UotF's business model for humanising digital entrepreneurship education and developing students' creative knowledge, skills, and Islamic values, which contributes to societal well-being is presented in this study as a conceptual and proven alternative. It also gives them a digital learning platform to guarantee that all HEI students have access to high-quality lifetime learning. To aid students out of poverty, this business model proposes a conceptual approach to solve the issue of unemployment by matching the skills of HEI students with the changing corporate needs. Humanising entrepreneurial education and promoting social well-being are central to this solution's business model for the Malaysian University of the Future (MUotF). It is possible for other institutions of higher learning involved in worldwide community involvement to assess and modify this suggested conceptual economic model for future universities.

Future work involves creating the organisation digital transformation and planning for executing the planned and validated MUotF business model for providing balanced & humanising education.

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