

Digital Transformation of UniKL BMI – An Enhanced Conceptual Business Model “University of the Future”

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Abstract: Digital transformation is the change that associated with the application of the digital technology in all aspects of human lives. The term or concept of “going paperless” as a reference affects both individual businesses and whole parts of society such as government, mass communications, arts, medicine, science and also education. For higher education, as the world nowadays appears to be driven by the disruptive change in the forces of technology, economic, political and education sector which threaten to undermine the business model, governmental support and operation. Malaysian higher education system must transform in order to survive in an increasingly competitive global economic environment. One of the transformation initiatives is the digital transformation of the Malaysian universities. Hence, the focus of this paper is to digitally transform University of Kuala Lumpur (UniKL). The methodology used is based on COBIT implementation framework, literature review, interview, and business-modelling framework. The main contribution of the paper is a conceptual enhanced business model and game changers specifically for digitally transforming UniKL, and generally can be adapted by other universities.

Keywords: digital transformation, university of the future, higher education, BMC, VPC.

I. INTRODUCTION

Despite today’s globalized and fast paced environment which demanding for a highly devoted community to expand and move together as one in order to cope with the explosion of technology. It cannot be denied that the rise of digital transformation among the university has rapidly progressed. Most of the university all over the globe already transformed to become digitalize university which parallels to technology growth. Unfortunately, the channel for university transformation to be digitalized are still not clearly defined or properly executed. Exposure to the university transformation is not very active compared to others country. Besides that, there are a lot of universities in Malaysia still applied the physical and manual systems and processes especially in learning method [1]. Furthermore, there are 5 drivers of change can be highlighted today which are ease of access to information and knowledge, I.R 4.0 and digital technologies, integration with industry, global mobility and competitive landscape [2] which can be applied to enhance the transformation.

II. BACKGROUND

UniKL at a glance is the leading entrepreneurial technical university in Malaysia. It was based on the heart of Malaysia’s capital and commerce area is one of the country’s leading technical universities. The university aims to provide the graduates with knowledge, skills and attitude required to contribute towards community and play major roles in a globalised and knowledge-based economy. The vision is to become the leading entrepreneurial technical university in the country by 2020 through excellence in research, education, training, entrepreneurship, consultancy and community services. The university is wholly owned by Majlis Amanah Rakyat (MARA), an agency under the Ministry of Rural and Regional Development (KKLW), Malaysia. The university is given the mandate to upgrade the status of technical education in Malaysia by the government. The “WE4ASIA” [3] concept shows that UniKL vision to become one of the top universities in Asia by 2020 by offering enriching university experience towards achieving “Academic Excellence” and enhancing “Graduate Life Success”.

UniKL is a multi-campus university technical university with its main campus based in Kuala Lumpur, Malaysia, rated as a Tier-5 "Excellent University" by the Ministry of Higher Education Malaysia in 2009, 2011, and 2013. UniKL has 14 institutes spread across 12 campuses throughout Malaysia in Kuala Lumpur, Gombak, Cheras, Bangi, Kajang, Sepang,

Taboh Naning, Pasir Gudang, Ipoh, Lumut and Kulim. Each institute under UniKL has a specialisation. Educational programmes of UniKL are accredited by Malaysian Qualification Agency (MQA). In 2012 the university had around 20,500 local and international students studying at 11 campuses throughout the country, offering educational programs at professional certificate, diploma, degree, and postgraduate level [4].

III. PROBLEM STATEMENT

The term or concept of “going paperless” as a reference affects both individual businesses and whole parts of society such as government, mass communications, arts, medicine, science and also education. For higher education, as the world nowadays appears to be driven by the disruptive change in the forces of technology, economic, political and education sector which threaten to undermine the business model, governmental support and operation. These forces will definitely further include new types of difficulties in growing revenue stream, economic competition, relatively decline in government support, future political turmoil and also out-dated methods of teaching and learning that might need changes. The higher education sector will be facing a needed change and it will be under pressure as the changes will be highly expected to increase the number of students’ enrolment, educational preparation, workforce, market needs and even economic development. The ability to create digitally based business has lowered the barrier to creating new and innovative ventures for entrepreneurship across the globe. As traditional universities rely heavily on government supports and private donation, a future university should be able to self-sufficient and respond accordingly to the market forces. Thus, a good transformation is needed to build successful future business models with a chance to provide value propositions that meet the needs of students, business, markets, policymakers and university’s community.

IV. METHODOLOGY

(a) ISACA COBIT Principles and (b) COBIT 5.0 implementation framework

A. ISACA COBIT

ISACA COBIT 5 is a framework for the governance and management of IT enterprises. ISACA COBIT 5 has five principles which are meeting stakeholder needs, covering the enterprise end to end, applying a single integrated framework, enabling a holistic approach and lastly is separating governance from management [5].



Fig. 1: Cobit 5 Principles

Stakeholder for the university institutions is the Ministry of High Education (MOHE). All universities in Malaysia need to follow the regulations of MOHE to get for financial support. Besides, universities need to make a balance scorecard to determine if stakeholder needs are being met. Secondly is to cover the enterprise End-to-End which is to treats information and related technologies as assets that need to be dealt with just like any other assets within the enterprise. Thirdly is by applying a single integrated framework which will be a highly challenging task as it must be in alignment with other relevant standards and frameworks as well as the need to provide a simple architecture for structuring guidance materials and producing a consistent product set. The fourth principle is enabling a holistic approach which is to be discussed in strategic management literature as needed for an organizational system. The last principle is Separating Governance from Management. Separating governance from management as governance ensures that stakeholder needs, conditions and options are evaluated to determine balanced, agreed-on enterprise objectives to be achieved; setting direction through prioritization and decision making, and monitoring performance and compliance against agreed-on direction and objectives.

B. Cobit 5.0 implementation framework

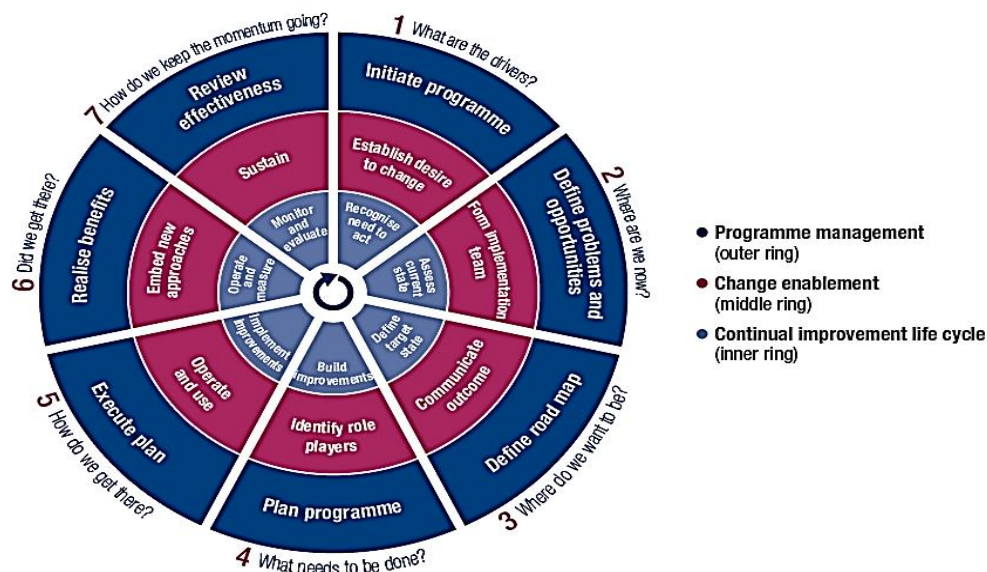


Fig 2: B. Cobit 5.0 implementation framework

Based on the framework, we followed step-by-step from the framework implementation for this research. First, we need to recognize the drivers of change for UniKL. We try to identify what kind of programs need to be initiated, establishing the desire to change and also recognize the need for UniKL to act towards those changes. Second, we also need to identify where are UniKL now in the global scale competition? Starting with comparing this university in QS ranking with other top universities, we define the problems and recognize the opportunities so that the changes that will occur will provide value for UniKL in order to compete with other top universities in the world. The third step is by pinpointing where we want UniKL to be in the global competition which also by comparing with other top universities' IT strategic planning (ISP). Next, we will be evaluating on program planning and also to identify the role players for this particular plan. The fifth phase will be the plan execution phase where in this phase we need to operate each plan and use all the resources available in the processes. The sixth phase will be a post-execution phase where we will recognize the benefits and the flaws of the initiated plan and fixed any errors or embed new approaches if needed. Finally, the seventh phase is where future planning will be done in order to keep the momentum going. This will be highly important in order to sustain the changes that had executed earlier.

V. LITERATURE REVIEW

In order to gather more ideas on how to implement the transformation development in our business, we reviewed some implementation of this transformation.

A. University Kuala Lumpur (UniKL)

UniKL is located in Kuala Lumpur, Selangor, Kedah, Perak, Melaka and Johor. This university is ranked in rank 351 - 400 in Asian University Rankings [6]. Vision and mission for this university is to become the leading entrepreneurial technical university in the country by 2020 through excellence in research, education, training, entrepreneurship, consultancy and community services and to produce enterprising global technopreneurs [7]. All students are compulsory to take entrepreneurship to accomplish the mission and vision of the university and also to accomplish the MOHE blueprint [8]. Moreover, UniKL has a 4 years strategic plan (2017-2020) which is develop using balanced scorecard methodologies. UniKL already apply Massive Open Online Courses (MOOC) on certain courses such as oceanography, circuit theory, effective teaching and product design. The students can use this tool to learn or gain knowledge by using online platform. Through "WE4ASIA 2020" brochure [9] there are various strategic thrusts that were introduced as the strategic planning for UniKL. In the strategic thrust number 4 which UniKL will be providing quality campus infrastructures, providing reliable and cost-effective ICT services in order to facilitate transformational change and also to utilize efficient ICT governance in UniKL. Based on strategic thrust number 7, UniKL will strengthen their industrial engagement by increasing and enhancing strategic partnerships with industrial community and due to digital transformation, we believe that the plan will advance with productive and effective manner. Finally, we also would like to mention about the strategic thrust number 8 which to establish an elaborate and effective alumni fellowship which also can be enhanced through this research proposed changes.

B. Harvard University IT Strategic Plan

Harvard University is one of the top universities in the world who is already making changes towards the education 4.0. Harvard University is ranked top 3 on QS World University ranking on 2018 which make it quite obvious that the changes are deemed to be a success as a whole. In 2012, Harvard University already planned the IT strategic plan to define a vision and priorities on which the various schools could collaborate, the plan outlined 16 key initiatives to address the demand for enhanced IT capabilities in support of Harvard’s mission. The vision is empowered the Harvard community through technology that enables the effortless access to data, information and knowledge. Besides that, the vision of Harvard is rapid and profound innovation in teaching, learning and research and seamless collaboration across communities and disciplines. In the year 2014 - 2015, Harvard University collaborate with Massachusetts Institute of Technology (MIT) launched on the non-profit learning platform, edX which are HarvardX and MITx. HarvardX and MITx are tools for students around the world to gain knowledge through the online platform. About 4.5 million participants use this tool from the launch until fall 2016 [10].

C. Ali Baba Group University

AliBaba is collaborating with top Chinese university launch new education portal for MOOCs and named Chinese MOOCs. Chinese MOOCs have 26 courses covering subjects in law, science, IT, literature and music [11]. There are six other universities who are using this Chinese MOOCs which are University of Hong Kong, National Taiwan University and Peking University. Chinese MOOCs combines quizzes, videos and coursework related to the course. By using Chinese MOOCs, AliBaba does not need to have a physical place to teach their students. Students can access Chinese MOOCs to get the knowledge and do not need to attend the physical classes.

D. Drivers of Change, Mega Trends, and Business Model

According to the Mega Trends in Malaysia, Malaysia want to have 125 million connected devices in 2025 with over 58 million mobile subscribers. 95% of the Malaysians, or internet users, will be the active social network users, presenting a huge potential for digital marketing and e-Commerce [12]. Nowadays, the entrepreneurship courses are compulsory for all students to learn in high education institutions. This is because MOHE wants to produce graduates who will be able to create job opportunities and not only seek jobs for themselves. This will give opportunities to other people to get a job especially a woman. Besides that, in the Mega Trends, they have discussed and emphasizing about she-economy. By creating a new job, a woman can easily get a job such as Uber services (which now is owned by Grab) and Grab services which provide a job to people to make an extra income. Uber services use the technologies and internet as a tool to develop their business [13]. Moreover, Mega Trends also discuss connectivity and convergence trend. In the era of IoT (Internet of Things), everybody wants to access the internet and it also can make communication a lot easier without any regards to time and place. Higher education institutions take the advantages of the technologies and the internet by creating an online platform to teach their students around the world without attending the physical classes such as HarvardX, MITx and Chinese MOOCs [14].

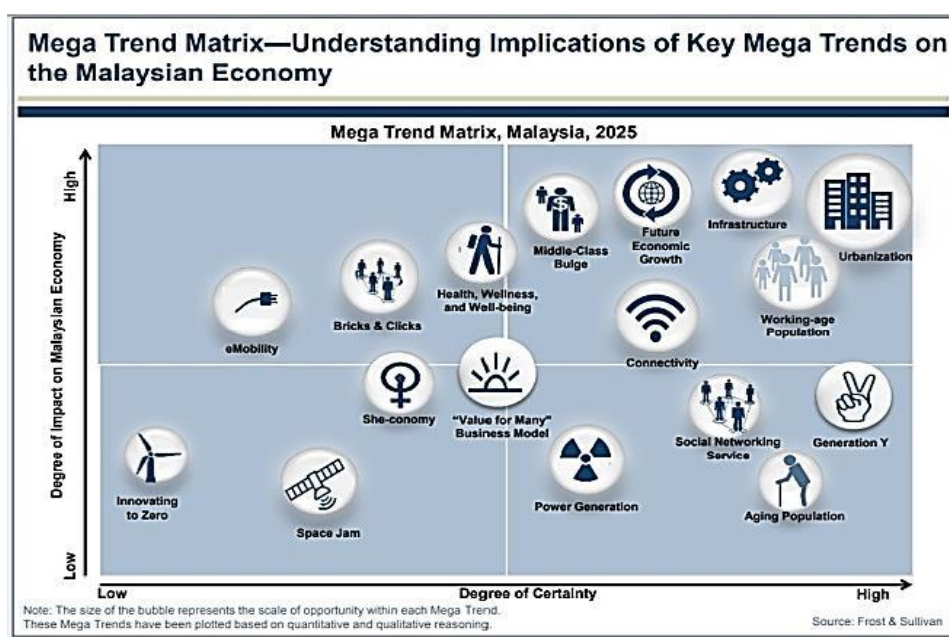


Fig 3: Mega Trends Matrix, Malaysia, 2025

Moreover, by focusing on the “Value for Many” business model, the introduction of training and learning professional which are MOOC, Corporate Open Online Courses (COOC) and Small Private Open or Online Courses (SPOC) which all aim to offer free training with flexible time, venue and also highlighting different value propositions from each trainings. For instance, MOOC represents a distanced based approach for e-learning, COOC is for small or large business types of MOOC and finally, SPOC is by offering for a small group of people a tailor-made course [15]. These kinds of training actually supported the idea of digital transformation in higher education institution and also provide a new platform or concept for training and learning.

We also take a few business models as references for the initial business model canvas for the research [16].

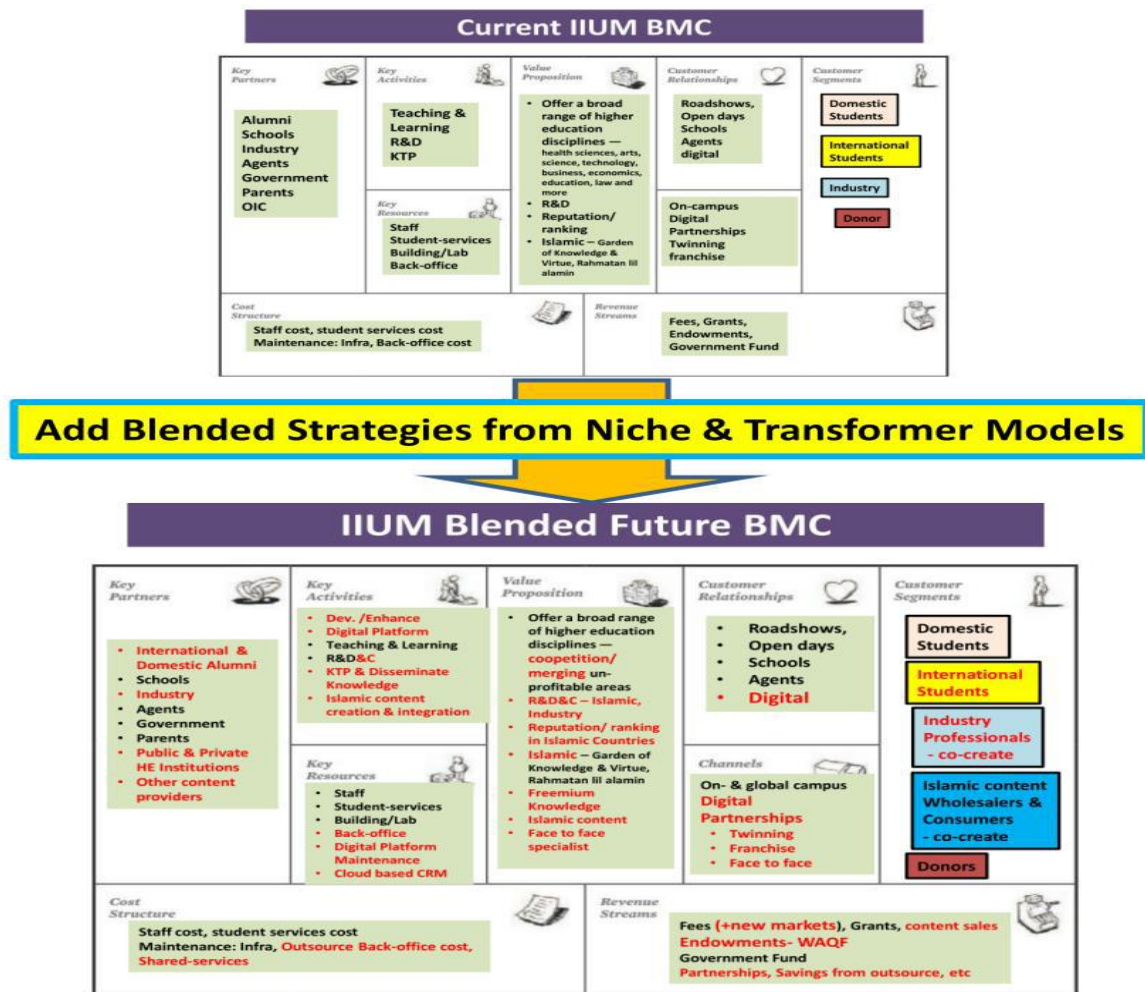


Fig. 4: Current IIUM BMC and IIUM Blended Future BMC

E. Ministry Of High Education Blueprint (MEB) 2015 – 2025

There are 10 shifts that MOHE focus on this MEB which are holistic, entrepreneurial and balanced graduates, talent excellence, the nation of lifelong learners, quality TVET graduates, financial sustainability, empowered governance, innovation ecosystem, global prominence, globalized online learning and lastly is the “Transformed Higher Education Delivery” [17]. In this MEB (HE), Ministry decided to generate a higher education system that able to challenge other top universities around the world and able to compete in the global economy. Thus, by transforming the higher education delivery in parallel to the digital transformation, the higher education shall advance further and able to compete globally. The ministry also inspires the students in higher education institutions to have an entrepreneurial mind set to produce graduates who will be job creators instead of only limited to be job-seekers. Therefore, all the universities in Malaysia should make the entrepreneurship subject become a compulsory subject that all students need to learn and might change their mind set to become a job creator. Besides, the ministry also wants the higher education institutions to focus on outcomes over inputs and actively pursue technologies and innovations that address students’ needs which can give the students a greater personalisation of the learning experience.

VI. INITIAL BUSINESS MODEL CANVAS (BMC) & VALUE PROPOSITION VALUE (VPC)

A. Business Model Options

Based on the literature review that we gathered, 2 business model options were formulated. In order to establish this business model, 4 Lenses of Innovation [18] had been used. 4 Lenses of Innovation highlighting challenging orthodoxies, harnessing trends, leveraging resources and understand needs. Therefore, with these 4 lenses, business model successful to establish in this digital transformation.



Fig. 4: 4 Lenses of Innovation

These are the 2 formulated Business model options and business model option 2 has been chosen as the initial business model.

Key Partners <ul style="list-style-type: none"> • Students • Staffs • Alumni Community • MOHE • MARA • Investor • Stakeholder 	Key Activities & Innovation <ul style="list-style-type: none"> • Research & Innovation 	Value Proposition <ul style="list-style-type: none"> • Digital Learning • Automate Security Access • Free journal publishing 	Customer Relationship <ul style="list-style-type: none"> • CRM • Marketing Strategy 	Customer Segments <ul style="list-style-type: none"> • Students • Staffs • Security Officer • Outsource Staff
	Key Resources <ul style="list-style-type: none"> • Lecturers • Students • Staffs 		Channels <ul style="list-style-type: none"> • Classroom • Hostel • Cafeteria • Security Access • E-learning • Student Portal 	
Cost Structure <ul style="list-style-type: none"> • Services Cost • Maintenance Cost 		Revenue Streams <ul style="list-style-type: none"> • Government funds • Investors • Tuition and hostel fees 		

Fig. 5: BMC Option 1

Key Partners <ul style="list-style-type: none"> • Students • Staffs • MOHE • MARA • Alumni • Investor • Stakeholder 	Key Activities <ul style="list-style-type: none"> • Research and Innovation 	Value proposition <ul style="list-style-type: none"> • Digital Learning • Automate Security Access • Free Journal Publishing 	Customer Relationship <ul style="list-style-type: none"> • CRM • Marketing Strategy 	Customer Segments <ul style="list-style-type: none"> • International Students • Local Students • Outsource Staffs
	Key Resources <ul style="list-style-type: none"> • Lectures • Students • Staffs 		Channel <ul style="list-style-type: none"> • Classrooms • Hostels • Cafeteria • E learning • Student portal 	
Cost structures <ul style="list-style-type: none"> • Services costs • Maintenance Costs 		Revenue Streams <ul style="list-style-type: none"> • Government Funds • Investor • Tuition and hostels fees 		

Fig.6: BMC Option 2

B. Initial Business Model

Key Partners <ul style="list-style-type: none"> • Students • Staffs • MOHE • MARA • Alumni • Investor • Stakeholder 	Key Activities <ul style="list-style-type: none"> • Research and Innovation Key Resources <ul style="list-style-type: none"> • Lectures • Students • Staffs 	Value proposition <ul style="list-style-type: none"> • Digital Learning • Automate Security Access • Free Journal Publishing 	Customer Relationship <ul style="list-style-type: none"> • CRM • Marketing Strategy Channel <ul style="list-style-type: none"> • Classrooms • Hostels • Cafeteria • E learning • Student portal 	Customer Segments <ul style="list-style-type: none"> • International Students • Local Students • Outsource Staffs
Cost structures <ul style="list-style-type: none"> • Services costs • Maintenance Costs 		Revenue Streams <ul style="list-style-type: none"> • Government Funds • Investor • Tuition and hostels fees 		

Fig. 7: Initial Business Model Canvas

BMC is a relatively new paradigm to business modelling. It was popularised by Alexander Osterwalder and Yves Pigneur in their ground breaking book titled “Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers” [19]. The nine blocks of BMC captures the business big picture and its logic. BMC has its own limitations [20]. However, the most recent Osterwalder book on Value Proposition Design (VPD) addressed most of the shortcomings raised [21] BMC also is a tool to formulate and analyse University of the Future business models and subsequently use the framework to generate enhanced business models for the University of the Future [22].

There are 9 segments in BMC which are the value proposition, customer segments, key activities, key partners, key resources, customer relationship, channels, costs-structure and revenue streams. Value proposition gives an overall view of UniKL BMI’s products, services and also provides values such as performance, customization and new innovations, for example, digital learning, automate security access and free journal publishing. Customer segments is a segment for target customers that will be attracted to or using the university’s products or services for example students (local, international, postgraduate and undergraduate), staffs and outsourced staff [23] while key partners is the company relationship with other companies or agencies to run the business for instance students and staff, MOHE, MARA, alumni communities and investors as well as stakeholders [24]. There will be two key activities that will be focused on which are research and innovation. Key partnerships are the network of suppliers and related partners that will make the BMC works [24]. Key resources are the important assets needed to make business model works, for example, the lecturers, students and staffs of the organization [25]. Next will be channels that will be the medium for the business to reach the customers and how the ideas could reach them and in this particular case, the channel will be the classroom, hostel, student portal and E-learning sites. Defining the cost and expenses that will be incurred while operating the business model will be in the cost structure which will be services and maintenance [26]. Finally, the revenue streams will reveal the earning a business makes from all the methods or where the money comes in, for example, government funds, investors and the tuition as well as the hostel fees [27].

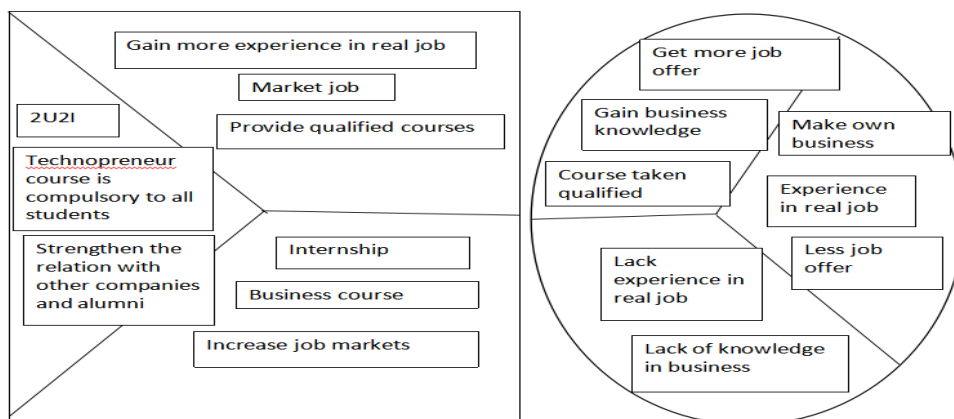


Fig. 8: Value Proposition Canvas (Students)

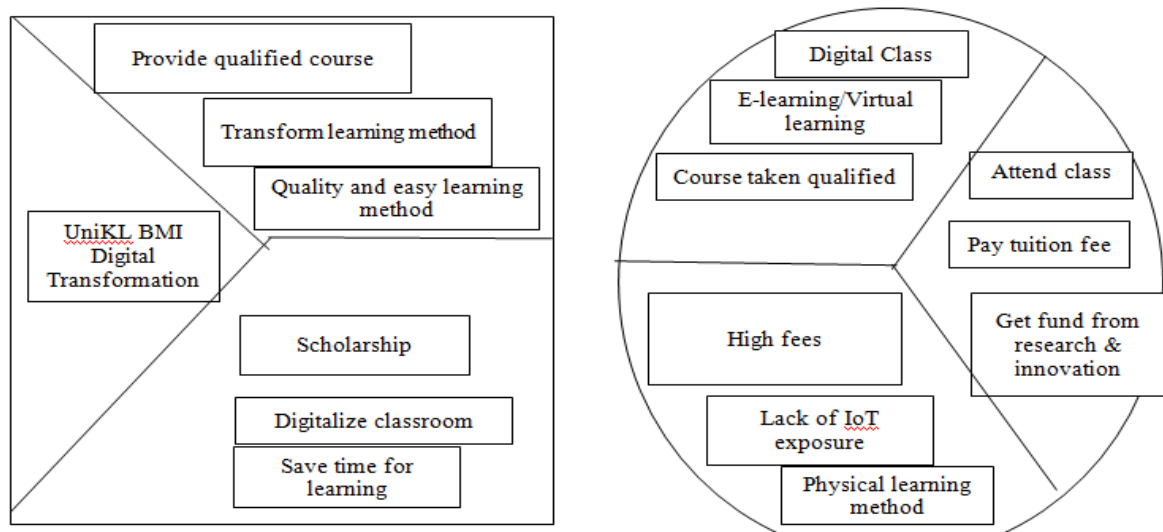


Fig. 9: Value Proposition Canvas (Staffs)

The game changers that UniKL can create in order to make an improvement to the university by promoting the digital transformations are by creating COOC and SPOC. For the COOC, the companies that have a relationship with the university will give knowledge to the student according to their experience and give exposure to students about job scope in real companies. For the SPOC, UniKL can create a small private online course for the students. In this case, alumni can be a tutor and teach students based on alumni experiences. Moreover, SPOC can be a charity platform to help students who are coming from poor families and want to learn about business or anything that can give the students extra incomes. Besides, UniKL can create an e-campus or virtual campus. For instance, if students unable to understand or losing focus in the class, they can log in to the e-learning portal and watch the video about the lectures and tutorials. After the class end, the lecturers will upload the lecture's or tutorial's videos. Furthermore, UniKL needs to make more attachments programs with the industries to make sure the syllabus in the university is up-to-date to be used in the industries.

VII. SUMMARY

Establishment of the digital transformation has high potential to explode the technology agile growth. Every organization and university should take part in this transformation that would give big impact parallel to megatrends today. Every university should have digital mind set and start to define the digital destiny for their every institution. Digital capabilities seem to have a big potential to be a success. Higher education sector should put this transformation as the main agenda of their strategy for transformation. Lastly, this conceptual solution may support many vendors to involve in this transformation.

VIII. CONCLUSION

This conceptual solution is high on demand in university all over the globe. Every education government in the world rapidly planning this conceptual solution in order to enhanced university to become University of the future which complies with all the digital transformation of technology. This transformation would give many benefits to the university and also help in high education growth of the university. Furthermore, this opportunity would help in the economical explosion because there are lots of investors would involve in this transformation and may attract many investors due to its fine potential to grow on a bigger scale.

IX. FUTURE WORK

In order to complete this conceptual digital transformation solution, further work will be needed in order to realize the solution in the future. There are some future works that we will proceed for next level of the development. An interview with CIO of UniKL BMI will be conducted soon to have collaboration and get some idea for this solution. Based on the interview later, validation of the business model with the identified game changers will be done in order to be implemented. Finally, we will establish a new ISP starting from the year 2019 to 2021.

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