The Future of Universities

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Abstract— **Changing times warrant a change in the way companies and organizations deal with their stakeholders and shareholders. In other words, predictable and unpredictable environmental factors push organizations to keep changing and improving their strategies in order to have competitive advantage over other organizations in the market. In the case of universities, not only does it have competitors within the educational sector but it also has within other sectors. This makes it challenging for a university to remain relevant in the next few years.**

This paper examined the different environmental factors that are affecting the universities. It has established that in order to have competitive advantage over its competitors, it has to re-evaluate its business model and processes. After studying and analyzing BMC and value proposition canvas, the study has discovered that to be a "the future of universities", a university needs streamline its business model according to the needs of the customer segments by offering specializations on sought after degrees (e.g. Islamic banking), training (online), develop an MOOC, as well as provide other online educational resources for the customers. This study forms a basis for future research and work on the ever changing environmental factors that continuously affect a university.

Index Terms— BMC, Environmental map, proposition canvas, University of the future, specialization courses, Value, streamlined business model, training, flexible.

I. INTRODUCTION

The beginning of the 21st century has ushered enormous changes in the world. Various sectors within the market have been affected by elements such as globalization and developments in digital technologies. For example, conducting a business has been affected by the sudden influx of a vast amount of information that is freely available for both customers and rival businesses. No business is susceptible to today's ever changing environment. Businesses are constantly assaulted with different environmental changes and in order to thrive in such an environment a business needs to be flexible and come up with corporate strategies that will enable it to be competitive within the market.

Similarly, universities are not immune to such environmental changes. According to several researches, the educational sector is going to be greatly affected by such environmental changes. Changes such as globalization, development in digital technology, and Big Data is already affecting how universities are conducting their businesses which includes how they deal with their major and minor customers. According to Ernst and Young, universities have much change to expect in the future and the business model of today's universities would need to be changed. Disruptive technologies like the advent of the World Wide Web have greatly changed and are still changing the way businesses are run. Higher education is no exception.

PROBLEM STATEMENT

The business model of a traditional university will not survive the onslaught of different environmental changes. Keeping that in mind, this paper aims to study what constitutes a "university of the future". This means that such a university has competitive advantage. As mentioned earlier, several factors are affecting how universities are conducting business. Universities these days have several competitors, including non-educational organizations. As a result, there is a need to come up with a new business model canvas in order to be equally competitive.

II. METHODOLOGY

This paper makes use of three different tools to analyze, and then develop the most effective business model that will constitute the University of the Future. It uses an integration of the following tools: environment map, business model canvas (BMC), and value proposition canvas (VPD).

The first step in the methodology is examining the environment map of the university. The Environment map allows for the examination of factors within the environment that may affect the business. Factors such as key trends, market forces, industry forces and macro-economic forces affect the business model of an organization. Key trends may include regulatory, technology, societal and cultural, as well as socio-economic trends. Market forces such as market segments, needs and demand, switching costs and market issues need to be monitored. Industry forces like new entrants, suppliers and other value chain actors as well as competitors are also important factors that need to be evaluated. Besides the three aforementioned factors, macroeconomic forces such as economic infrastructure, global market conditions, and capital markets also need to be studied in order to understand what needs to be changed in the organization.

The second step is to develop a business model canvas (BMC) of the university. Business model canvas is a strategic management and entrepreneurial tool. It is a chart that shows an organization's value proposition, infrastructure, customers, and finances. This chart clarifies and pinpoints the

different crucial and important elements within an organization. Firstly, the current BMC of the university is examined and according to the environment map, a new BMC of the university is then developed.

The third step is to develop a value proposition canvas from the BMC. A value proposition canvas further exams two segments of the BMC: value proposition and customer segment. The value proposition includes products and services offered by the university, gain creators, and pain relievers. On the other hand, customer segment includes what a customer wants (gains), what it wants to relieve (pains), and customer jobs. The main aim here is to align the value proposition with what the target customer segment wants.

After laying down the initial conceptual framework, a survey is then conducted to figure out whether this initial framework addresses the expectations of students about the University of the Future. For this, a survey was sent to random masters or P.H.D students in Kuala Lumpur. The purpose of the survey is to pinpoint what the customers belonging to the different customer segments expect from the University of the Future. Therefore, the questions in the questionnaire revolve around or are based on the following elements of BMC which are: customer segments, value proposition, customer relationships, channels and revenue streams. It is also based on the value proposition canvas relating to the gains, pains, customer jobs as well as the products and services, gain creators and pain relievers.

The target number of respondents is 1000 that consists of men and women, professionals and non-professionals and from ages 23 to 40 years old that are locals as well as internationals.

III. LITERATURE REVIEW

Researches have recommended that for a university to be still relevant in the future, it has to make some changes in how it is run. These changes may include a change in or revising the old business model. In order to understand what is needed to be changed, a university needs to know the environmental factors that are affecting or going to affect its operations. Researchers summarizes the drivers of change that is effecting universities into the following five trends: increase in the availability of knowledge for everyone, competition for students and government funds, development in digital technologies, globalization of learning, integration with industry.

Figure 1. Drivers of change
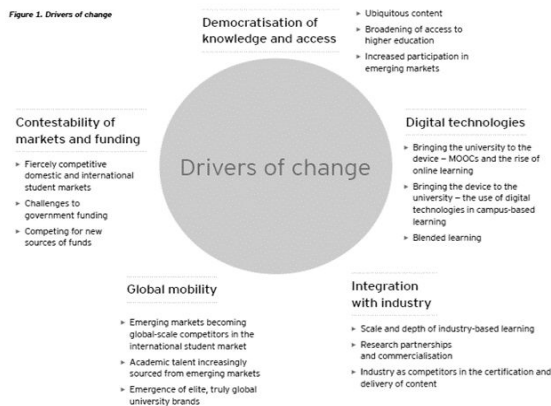
A. Availability of knowledge for everyone

The enormous increment in the accessibility of information online and the mass extension of access to university learning

in an advanced and emerging marketplace implies a central variation in the role of universities as inventers and preservers of information.

B. Contestability of markets and funding

Competition for students, in Australia and abroad, is reaching new levels of intensity, at the same time as governments globally face tight budgetary environments. Universities will need to compete for students and government funds as never before.

C. Digital technologies

Advances technologies have changed media, retail, stimulation and numerous different commercial ventures, higher education is next. Campuses will remain but yet advanced technologies will change the way education is conveyed and retrieved, and the way to create the value will still be made by the higher education and it might be collaborated with the industry.

D. Global mobility

Global mobility will develop for understudies, scholastic and college brands. This won't just escalate rivalry; additionally it will open doors for much more profound international corporations and more extensive access to understudy and scholastic ability.

E. Integration with industry

Universities should form essentially more profound associations with the industry in the years coming, to distinguish educating and learning curriculums, provision the funding and the use of research and examination, and fortify the role of universities as a force of improvement and invention. Many researches have repeatedly emphasized on the importance of collaboration and partnership for the University of the Future. These researches state that because a traditional university can't offer higher quality education without making the prices high, it is feasible to collaborate with the industry in order to cut costs and at the same time provide the services needed by the customers.

IV. UNIVERSITY OF THE FUTURE INITIAL FRAMEWORK / CONCEPTUAL MODEL
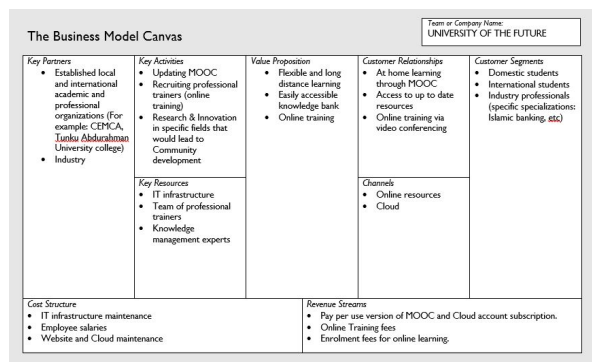

Fig.1 Conceptual BMC model

The first step is to figure out what are the environmental factors that will be affecting future universities. Therefore, a brief secondary analysis of environmental map was done. These elements would include external environmental factors. Predicted environmental factors that are going to affect universities in the future are: the emergence of more advanced IT systems to support organizations, increased competition within the market (by non-traditional educational

institutions), rapid increase in the fees for higher education, and competition in attracting stakeholders.

The BMC model given in figure 1 is based on this environment map.

The BMC model consists of nine parts: key partners, key activities, key resources, value proposition, customer relationships, customer segments, channels, cost structure and revenue streams.

Following will be a brief explanation each of the parts.

A. *The key partners* identified are: established local and international academic and professional organizations, and other industry organizations. The university will form collaborations and partnership with such companies to facilitate effective service to the stakeholders. These key partners would directly or indirectly help in the providing the services.

B. *The key activities* of the university would include all activities related to: updating MOOC, professional online trainer recruitment, research and innovation in specific fields such as Islamic Banking leading to community development.

C. *The key resources* such activities will need key resources like an up to date IT infrastructure, a team of expert professional trainers, and knowledge management experts.

D. *The value proposition* the above mentioned elements help in the value proposition (explained in the VPC section).

E. *The customer relationships* will be in the form of: student learning through MOOC, up to date online resources, and online training via video conferencing. These are done through channels like online resources and cloud.

F. *The customer segment* is divided into three types: domestic and international students, and industry professionals with specific specializations (e.g. Islamic banking, marketing, etc.).

A university of the future would get its revenue streams from the use of MOOC and cloud account subscriptions, online training fees and enrolment fees for online learning. The cost structure of such a university would be maintenance of IT infrastructure, employee salaries and website and Cloud maintenance.

Based on the BMC model given above, the value proposition canvas is mapped out. The value proposition model consists of two elements: value proposition and customer segments. The relationship between these two is the key factor in deciding what strategies to develop and implement. The value proposition maps out the services that the university is offering their customers. The value proposition needs to match with the needs of the customers. Therefore, the services given below will be tailored to the customers' needs, and these will be the gain creators as well as the pain relievers.

1. Professional training (online)
2. Community Service
3. MOOC
4. Research & Innovation in specific fields that would lead to;
5. Community development

There are three types of customer segments. Therefore, the relationship between the value proposition and the customer segment is described below according to the type of customer segment and their jobs.

A. Domestic Students of a country

The first customer segment of a university, which constitutes most of the customers, is the local students within the country. These people are looking for an education that would give them the skills and knowledge that would help them get better jobs in the future. As explained in the literature review, the tuition fees to get a degree these days is increasing rapidly and the quality is decreasing. Therefore, the "customer jobs" for this segment is obtain an education that is of high quality at a reasonable cost and at the same time get better job opportunities after graduation. The "pains" are paying high tuition fees and not having the guarantee of being able to get a job after graduation due to poor quality of education. The "gains" are high quality education, better job opportunities after graduation, and reasonable fees for the service rendered to them. Their pains and gains are removed and facilitated respectively by the products and services, gain creators and pain relievers such as MOOC, lower fees in exchange for useful and better knowledge, better chances of getting a job and future job development through training.

B. International Students

The second customer segment of a university is students coming from foreign countries. These like the first segment, are looking for a quality education that would give them the skills and knowledge that would help them get better jobs in the future. In addition, they might want to do it while they are in their own country. The customer jobs for this segment are the same as the previous one. Therefore, the "pains" are similar to the previous segment except with the addition of wanting to be flexible in the manner in which they want to obtain their degrees. The "gains" are also similar to the previous segment. Their pains and gains are removed and facilitated respectively by the products and services, gain creators and pain relievers such as MOOC, lower fees in exchange for useful and better knowledge, flexible ways of obtaining a degree (online resources, training), better chances of getting a job and future job development through training.

C. Industry Professionals

The second customer segment of a university is industry professionals. These are different from the first and second segment in that they are working individuals. This segment is similar in that they also want quality knowledge and skills that would further their profession and elevate their position within the company. Therefore, the "pains" are a combination of the pains of the two previous segments and in addition, time is an important factor to them. The "gains" are also similar to the previous customer segment. Their pains and gains are removed and facilitated respectively by the products and services, gain creators and pain relievers such as MOOC, lower fees in exchange for useful and better knowledge, flexible ways of obtaining skills (online training), better chances of getting a job and future job development through training. In addition, the most important part is the timings of the training courses are flexible.

V.   SURVEY RESPONDENTS / RESULTS

A total number of 1000 survey was sent by email to random respondents with the characteristics that was mentioned in the

Methodology section. However, only 200 surveys were returned back. Out of the 200 surveys, 60% were women and the remaining 40% men. There were equal number of masters and Ph.D. students.

For the questions relating to key resources and channels, 70% of the students thought that universities in the future should not charge for the services provided. In addition, 65% of the respondents who are both men and women prefer to use networking sites to study and make use of it to transfer knowledge. On the other hand, 1% of the students did not answer this category of questions.

With regards to value proposition and customer relationship, 89% of the respondents report a pain of having problems looking for courses that are not flexible with their schedule. This included both masters and Ph.D. students that are both working and not working. While on the opposite end of the spectrum, only 11% of the respondents wanted to have a fixed time table of courses. In addition, there was 45% that preferred a flexible range of time to finish their courses. More than half of the respondents preferred to have a fixed duration. To questions regarding key partners and customer segments, 100 % said that they would prefer to study in universities that are in collaboration with the market. A combination of lectures and training was the preferred style of teaching by most of the students.

The questions regarding online training yielded the most negative response. Only 1% of the respondents said that they would want to do online training and only if the trainers were highly qualified trainers.

Lastly, regarding key activities, 87.4% of the respondents says that they would choose a university which will enable them to get better jobs after graduation and the remaining respondents didn't answer the question. It must also be noted that almost 100% of the respondents prefer that universities must narrow down their courses and offer specializations in specific fields that are needed by the economy.
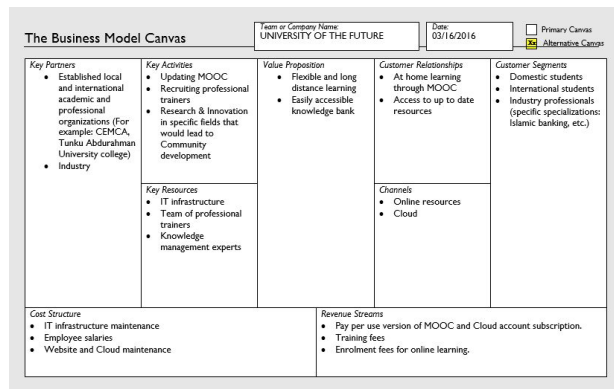
VI. ANALYSIS & FINDINGS

Fig. 1.2 Revised BMC model

A. Key resources and channels

When it comes for key resources and channels most of the students are certain that the University of the Future will offer content virtually for all kind of courses with no charge and more than half have confidence that students will practice most of their studies through social networking platforms to study and to transform that knowledge to instruct different understudies. In addition, the concept of online training wasn't really a favorable concept among the students.

B. Value proposition and customer relationship

Most of the students trust that classes and the availability of courses will be accessible at any time a student wants to reach them and a most courses will be offered without settled timetables to oblige understudies who are living the work life or simply not in favor of studying at a specific time.

In addition, some students have a different vision for the university students in the future which they will tend to acquire particular specialization all through their profession permitting them to take courses at their own desire as opposed to what we have these days in universities which is a fixed range of time to achieve their degree.

C. Key partners and customer segments

A large portion of the students assume that the future of universities will give courses that are a joint effort between understudies and industrial projects which will sharpen their mind of how the real projects in the work life be like.

Moreover, students trust that they will have the capacity to get to guidelines or coaching from employees in the industry rather than just having a conventional classroom which is less dynamic.

D. Key activities

Students perceive the future of the universities without bounds as one plainly centered on delivering students who will be able to exceed expectations in employments that are required by industry and shine easily through employees who held more experiences.

Furthermore, students trust that most courses offered by future universities will be planned by industry specialists and courses will be offered in numerous forms to encourage employability.

At last, future employees believe that talents and abilities will be delivered in the future universities imperiled to each and every individual desire.

CONCLUSION & FUTURE WORK

The subject matter that discusses what kind of a university would survive in the future is a very important issue in the educational sector. The educational sector is continuously being affected by the several environmental factors that affect any organization. These factors range from key trends, market forces, industry forces to macro-economic forces as well as socio-economic trends. Previous research has shown that there needs to be a shift in the business model of the University of the Future in order to have competitive advantage. But the question is what kind of changes the universities need to be not only competitively advantageous but to be an excellent university that provides quality education.

From the findings, there is only a slight change in the initial BMC and value proposition model. It can be concluded that the University of the Future needs to have a wide range of courses that they can offer to the future generations. This future generation has been characterized to have pains and gains that are a result of the several drivers. One important driver is globalization of knowledge. Customers of a university can come from any part of the world and in addition, there is a large amount of professionals that need flexible training courses for professional development. As a result, such customer segments as mentioned in the findings need the element of flexibility in their courses. This is the pain that the products of a university can get rid of. Universities,

not only has competitors within the educational sector but it also has within other sectors. So the University of the Future needs to take the extra step and effort in keeping up to date in the emerging trends of several companies that can give a better alternative to theirs.

This paper is merely a rudimentary analysis of one of the ways that the University of the Future can keep having the competitive advantage over other universities while maintaining its teaching and service quality and at the same time contributing to the economy and betterment of the future. Therefore, for future research, it is suggested that that researchers continue conducting environmental maps, mapping out BMC and value proposition canvas for the evaluation and development of the University of the Future Business Model.

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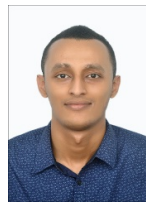
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