

# Advanced Tutoring System to Enhance Students' Learning Experiences - A Conceptual Enhanced Business Model

<sup>1</sup>Amir Faris Marzuki, <sup>2</sup>Mohammad Iqbal Hakim Ramle,  
<sup>3</sup>Abdul Rahman Ahmad Dahlan

<sup>1,2,3</sup> Kulliyah of Information and Communication Technology, International Islamic University Malaysia

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**Abstract:** The objective of this paper is to provide a conceptual platform to enhance learning experience through mobile and web based platform for students targeted at primary and secondary schools in Malaysia. This conceptual systems, namely "ATSYS", will require the participation of students (aged between 7 to 17) and qualified tutors. "ATSYS" is a business model which provides a platform where students can enhanced their learning experience thus helping them to excel in their studies. "ATSYS" also provides the opportunity for academic book publishers by providing them a platform to publish their business to the customers. Alternative and initial business model of Business Model Canvas (BMC) with 9 blocks of framework, literature review and value proposition canvas (VPC) have been used as the methodologies of this paper.

**Keywords:** Business Model Canvas (BMC), framework, value proposition design canvas (VPC), 4 Lenses of Innovation.

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## I. INTRODUCTION

The world keeps evolving every day along with the help of technologies. However, the education in Malaysia is still using the old-fashioned teacher-students relationship where one teacher needs to teach at least 20 students with different abilities, thus affecting the results of each student's level of understanding in certain subject. The question is, how can we change this results? How can we assure that the majority of the students in the class can have the same input that can later be outputted in the exam?. This paper will discussed about the solution to enhance the learning experience to students in primary and secondary school in Malaysia using the implementation of Massive Online Open Course (MOOC). The use of connected device and technology in the education industry is not a new thing, especially when the world was introduced with the term of MOOC in 2006 [1]. The realisation of this idea is based on the statistics by the Department of Statistic Malaysia, that the percentage of individuals in Malaysia aged 15 years and above using Internet was 71.1 per cent increased by 14.1 percentage points compared with 2013. Percentage of individuals using computer also increased from 56.0 per cent in 2013 to 68.7 per cent in 2015. Meanwhile, 97.5 per cent individuals were using mobile phones in 2015 compared to 94.2 per cent in 2013 [2]. This statistic shows that the importance of the use of connected device, especially among students. The statistic is later supported by the expected 125 million of connected devices by the year 2025 [3].

## II. BACKGROUND

Nowadays, technologies have contributed a lot in our daily life. Every single thing in our life is technology oriented. To precede this pattern of life, learning systems are relevant to do online, since numbers of Malaysian especially students and adults who have gadgets such as mobile phone and personal computer are increasing gradually. Moreover, some Malaysian thinks that teachers nowadays are likely to give a lot of homework to their students without realising the true meaning of homework that is to enhance student's understanding of the subject [4]. With the intention to help student's understanding certain subject in mind, ATSYS will provide a better solution for these problem.

### III. PROBLEM STATEMENT

There are countless number of tuition centre and students need to attend physical class for learning process [5], there are just a few websites or mobile apps provide free tuition session for primary students especially students in Year 1, 2 and 3. The best way to enhance primary students with virtual class with provide free online tutor for students Year 1, 2 and 3 in ATSYS platform, using one of the network of mosque for the place where all the students can be assemble and learn in a ubiquitous one place. According to InterNations.org, "In recent years, the average monthly income in Malaysia has steadily increased. In 2012, the government announced a 7.2% rise and a better monthly household income all over the country. Kuala Lumpur was at the top of the list, recording the highest growth rate. Overall, the average monthly income has climbed to 7,400 MYR. At the same time, however, the cost of living in Malaysia is increasing as well. Especially luxury items and eating out can come at a cost. Malaysians are struggling more and more to make a living and support their families. Let's take a closer look at the average living costs in Malaysia", (2018, n.p) [6]. Thus, ATSYS is a platform where Malaysian can generate extra income. Besides, it help students of education course practice their teaching skills.

### IV. METHODOLOGY

ATSYS system is using Business Model Canvas (BMC) as the part of the business planning. The Value Proposition Design Canvas (VPC) embedded in BMC. The Business Model Canvas (BMC) is a tool to describe how our organization creates, delivers, and captures value. The Business Model Canvas and Value Proposition Canvas perfectly integrate, with the latter being like a plug-in to the former that allows us to zoom into the details of how we are creating value for customers [7]. In addition, we have strategy canvas as our method. A strategy canvas is basically a line graph that plots functions/factors against importance for a company or an organisation and then overlays competitors or industry benchmarks. In this way, information can be built to help formulate a competitive strategy [8]. Last but not least, we use environment map, too. This environment map has key trends, market forces, macroeconomic forces and industry forces. The environment map help us to update our business plan.

### V. LITERATURE REVIEW

#### A. Education ecosystem:

The SnapAsk is a mobile app that help students and tutor generate extra money. This Hong Kong-based app launched in 2016, it allows the user the make money by tutoring students throughout Asia on their homework, which has been uploaded by the students on to the platform. The app has since expanded its horizons to Malaysia, as a girl student recently shared on Twitter that she earned RM1254 by answering a total of 1029 questions. Her short tweet certainly garnered a lot of attention, generating over 16K retweets [9]. Apart from that, this app is free to download. After downloading the app, students will have two options of sign up which are students or tutor. However, this app doesn't provide platform for volunteering activities to attract more students. In SnapAsk, users are required to upload a few important details such as academic transcript. Only qualified users can be a tutor. Although it might take a while as our application will be reviewed by actual people, users are free to provide their services the moment they receive an email of approval. Besides, tutors can choose which subject the wish to tutor. Tutors can choose which school level they would like to tutor, too. Be that as it may, it is not as easy as pie for users to become a tutor as it is dependent on the grades they have obtained. Furthermore, not only subjects, tutor also can choose which questions uploaded by students they want to solve. The most interesting thing in the SnapAsk, tutors will have their rating. Just like Uber and Grab, students who sought for tutors' assistance will rate according to their liking.

In Malaysia, we can conclude that our students are suitable with online tutoring system because this SnapAsk mobile app already have its user in our country. Finnish Education Ecosystem is the best example. Finnish educational ecosystem has strived for equity and high quality. Several fundamental elements in the Finnish system combine for the purpose of making education available for all [10]. This is the reason why Finnish educational ecosystem is the best in the world. To conclude, we are trying to make education available for all school students. The ATSYS will fulfil this criteria.

#### B. Benchmarking:

The GenextStudents is a top five apps that connect us with the best tutor [11]. In the GenextStudents, they are combining the best of private tutoring with technology enabled learning for CBSE, ICSE, national, international and State Boards. The CBSE, Central Board of Secondary Education and ICSE, Indian Certificate of Secondary Education is an

examination conducted by the Council for the Indian School Certificate Examination, a private, mental board of school education in India while most of the CBSE questions were HOTS (Higher Order Thinking Skills) questions that are application-oriented ones so it was tricky [12] [13]. It enables personalized learning for students and provides real-time progress updates to parents. On the other hand, it empowers educators and tutors to become entrepreneurs, and in turn, leading to creation of a wave of 'TUTORPRENEURS' across the country. The GenextStudent is amazing and its achievement will become our benchmark.

### **C. Mega Trend in Malaysia and Industry 4.0:**

Mega trend is important things to build long-term business. Gadget and internet network is one from top mega trend in Malaysia to 2025. According to pnewswire.com, 2015 “Ninety-five percent of all netizens, or Internet users, will be active social network users, presenting a huge potential for digital marketing and eCommerce” (n.p) [14]. This statistics prove internet and social network are current mega trend in Malaysia and our business will use the internet network and e-commerce system.

Moreover, our business will follow the Industry 4.0 (IR 4.0). Industry 4.0 creates what has been called a "smart factory". Within the modular structured smart factories, cyber-physical systems monitor physical processes, create a virtual copy of the physical world and make decentralized decisions. Over the Internet of Things, cyber-physical systems communicate and cooperate with each other and with humans in real time, and via cloud computing, both internal and cross-organizational services are offered and used by participants of the value chain [15]. So based from current trending news, nst.com, January 10, 2018, “IR 4.0 demands changes in the contents of not only technical education, but also education in general. Across disciplines, new emphasis will have to be given on certain skills and new contents have to be added. So, new educational programmes will have to be developed to meet changing demands” [16]. As a result, with ATSYS system, new contents of education can be developed. Besides, this online tutoring system is different from physical class and ATSYS can become second teacher after class hour.

### **D. Market Demand:**

In Malaysia, physical tuition get a lot of demand. However, not all people afford with this physical tuition class because sometimes it too expensive. Furthermore, market demand of online tutoring class got high number, too due to increase in number of mobile user and personal computer user among students. According to researchnester.com, November 2, 2017, “Malaysia online education market is anticipated to project a promising compound annual growth rate of 16.4% over the forecast period i.e. 2016-2023 owing to the strong government initiatives and rising smart phone and tablet user in the country. Mobile e-learning segment is anticipated to dominate the market over the forecast period; the segment is estimated to account a market share of 35% by the end of 2023 due to increasing internet penetration and rising mobile and tablet users in the country” [17]. Online tutoring system will become new trending in our country.

## **VI. 4 LENSES OF INNOVATION**

4 Lenses Of Innovation was introduced by Rowan Gibson as a power tool for creative thinking. With this framework, we could learn the way for putting creativity into our organization. It outlines four aspects which are Challenging Orthodoxies, Harnessing Trends, Leveraging Resources, and Understanding Needs.

From the perspective of challenging orthodoxies, ATSYS tries to challenge the conventional current implementation of education system in Malaysia. The current system whereby the formal education starts and ends at school tend to make students can't have proper guidance on academics outside school. As a result, students cannot excel in examination. The results is much more enervate in some rural schools as there is no virtual tuition company nearby schools.

Besides, ATSYS is also trying to harness the trends. The fact that knowledge is important, ATSYS aims to facilitate the education systems whereby students as early as 7 years old can get free education by using the system. With the emergence of the connected devices, all citizens can get the equal rights to education. Moreover, University students, Government and Non-government employees, volunteers, and all people who have passed the required qualification can contribute to the system by becoming the tutors.

ATSYS is also leveraging resources as the available resources such as book publishers, tutors and volunteers are among our main targets to contribute to the system. ATSYS will act as the third party by proposing a new way to b have side income.

ATSYS is also understand the needs of knowledge among the people. Tutors will be the main actor for helping the students in need of education. Besides, ATSYS also understand the needs of service provider such as book publisher to have their products sold in the system.

ATSYS also proposing the network of mosque, whereby available tutors can make a virtual class to help their students, as the mosque will provide a place for the class.

## VII. BUSINESS MODEL

### A. Key trends:

According to Guillemain and Patrick (2015), the number of Internet-connected devices surpassed the number of human beings on the planet in 2011, and by 2020, Internet-connected devices are expected to number between 26 billion and 50 billion. For every Internet-connected PC or handset, there will be 5–10 other types of devices sold with native Internet connectivity. On the other hand, according to Frost and Sullivan (2015), “Malaysia to have 125 million connected devices in 2025 with over 58 million mobile subscribers. Ninety-five percent of all Netizens, or internet users, will be active social network users, presenting a huge potential for digital marketing and e-commerce” (p.10) [3]; which tells us why reaching to the customers via online is more reasonable. Thus, we can harness the trends we mentioned above and ‘harnessing the trends’ is the second lens of the 4 lenses of innovation.

### B. Market forces:

According to the National Student Clearinghouse Research Centre, between 2012 and 2013 the number of institutions launching e-learning platforms increased by 23%. The percentage of popularity of online education from the year 2004 to 2016 (12 years) had increased by 243% [18]. The phenomenon of online education keep increasing annually. In Malaysia also, the current government had plan to fully digitalised the textbook used by all the students in school [19], and thus actually have make the realisation that online learning is the key trend for modern education.

### C. Macroeconomic forces:

Since the Massive Online Open Course (MOOC) first introduced in 2006 [1][20], the online education have emerged as popular mode nowadays. Sadly, the implementation of online education were always focussing on courses that are often taught in University, while there are so limit implementation for primary and secondary school students. This indicates it is relatively easy to enter the online education focusing solely on primary and secondary school students.

### D. Industry Forces:

Online education industry have always been focusing on courses offered for University student, while the implementation of online education is not widely used in primary and secondary school. In Malaysia especially, there is no current online education platform that connects the students and tutor for better enhancement in learning. The concept of ATSYS makes it different from any other online education sites.

### E. Initial Business Model Canvas:

Business Model Canvas is the template usually used by a start up company. It is a strategic management and lean start up template for developing new or documenting existing business models.[21][22].

In BMC, we have 9 blocks of frameworks which are customer segment, value proposition, customer relationship, channel, key resources, key activities, key partners, cost structure and revenue streams.

1. **Customer segment:** The customer segments are students, tutors, donors, and volunteers.
2. **Value Proposition.** 2 value proposition which is influenced by our customer segments.
3. Qualified tutor and current technology will become our main **key resources**.
4. **Key partner.** Qualified tutor, investor, book publisher and volunteers are the key partners. Investor are persons who want to find a tutor and organise free tutoring class for selected people.
5. **Customer relationship.** Social media, customer service and review.
6. ATSYS can be accessed through iOS and Android **channel**.
7. **Cost structure** in ATSYS are education structure itself with technology infrastructure and development of system.
8. **Revenue streams.** Tutor need to pay to have their account and payment after tutoring session but for volunteer tutors, signing up for account is free.

<b>KEY PARTNERS</b> <ul style="list-style-type: none"> <li>Qualified tutor.</li> <li>Investor.</li> <li>Organisation (schools, office of district education).</li> <li>Book publisher.</li> <li>Volunteer persons (examiner and tutor).</li> </ul>	<b>KEY ACTIVITIES</b> <ul style="list-style-type: none"> <li>Hiring tutor.</li> <li>Managing payment.</li> <li>Customers support.</li> <li>Receive request from volunteer.</li> </ul>	<b>VALUE PROPOSITIONS</b> <p>Users :</p> <ul style="list-style-type: none"> <li>Flexible time.</li> <li>Learning process anywhere and anytime.</li> <li>Easily looking at their progress in study.</li> <li>Free on selected course.</li> </ul> <p>Tutor :</p> <ul style="list-style-type: none"> <li>Additional source of income.</li> <li>Easy payment procedure.</li> <li>Flexible time.</li> </ul>	<b>CUSTOMER RELATIONSHIP</b> <ul style="list-style-type: none"> <li>Social media.</li> <li>Customer service.</li> <li>Review, rating and feedback system.</li> <li>Questions with certain level of difficulty.</li> </ul>	<b>CUSTOMER SEGMENT</b> <p>Users :</p> <ul style="list-style-type: none"> <li>Those who have difficulty in learning certain subject.</li> <li>Those who wants to have one-on-one tutoring.</li> <li>Not limited to only students.</li> </ul> <p>Tutor :</p> <ul style="list-style-type: none"> <li>Those who qualify to teach for certain level.</li> <li>Those who have free time.</li> <li>Those who wants earn additional income.</li> </ul>
	<b>KEY RESOURCES</b> <ul style="list-style-type: none"> <li>Qualified tutor.</li> <li>Current technology (smart phone, tab, lap top and personal computer).</li> </ul>		<b>CHANNELS</b> <ul style="list-style-type: none"> <li>Mobile apps for iOS.</li> <li>Mobile apps for android.</li> <li>Website.</li> </ul>	
<b>COST STRUCTURE</b> <ul style="list-style-type: none"> <li>Education infrastructure.</li> <li>Marketing activities.</li> <li>Technology infrastructure.</li> <li>Development of system.</li> </ul>			<b>REVENUE STREAMS</b> <p>Students (standard four and above) need to pay the tutor within monthly. Organisation will pay for our services. Tutor need to pay if they want to teach students (standard four and above).</p>	

Fig 1: Initial Value Proposition Diagram.

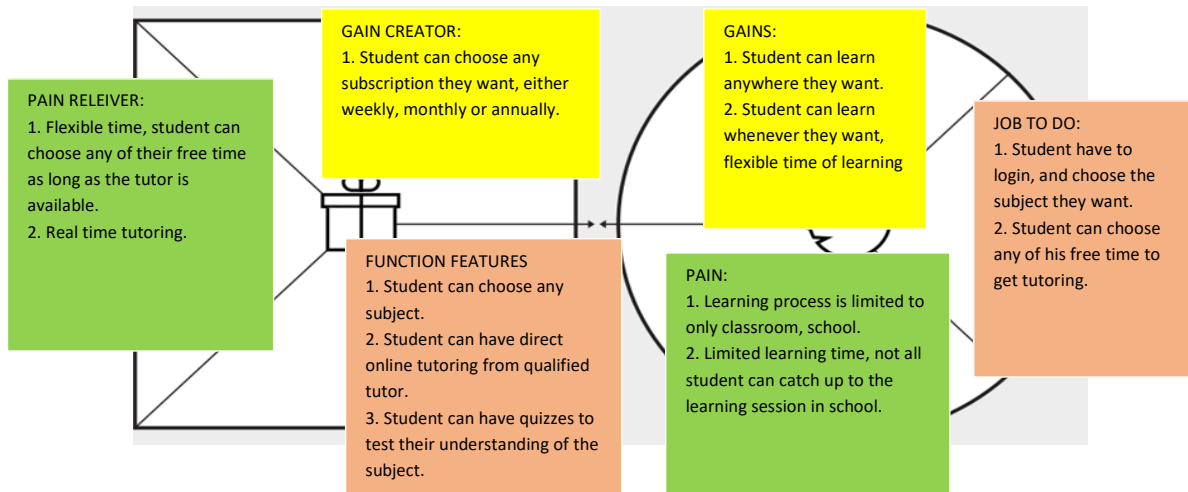


Fig 2: Initial Value Proposition Diagram for student.

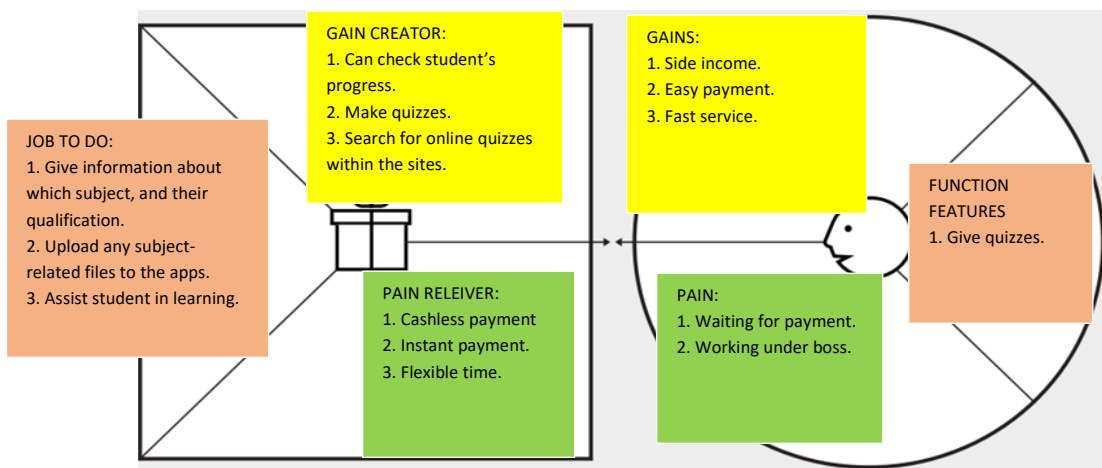
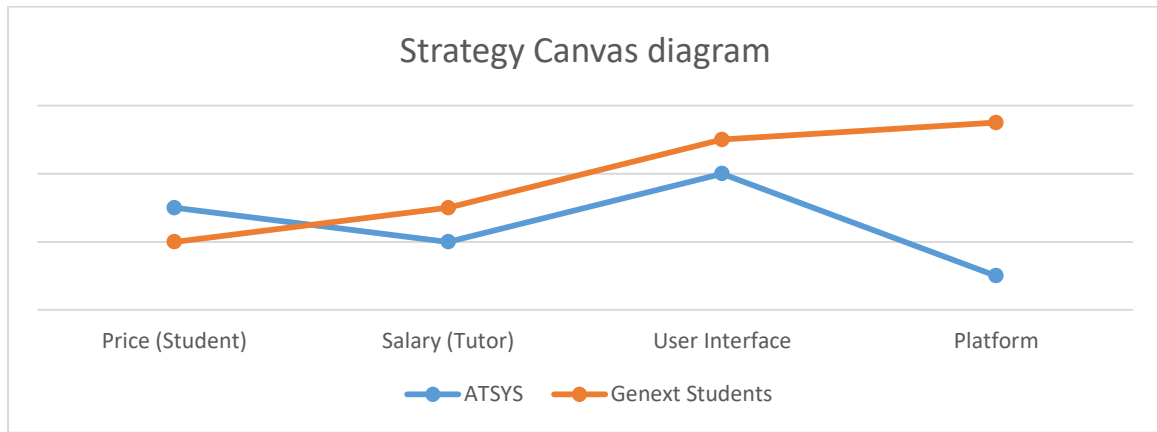


Fig 3: Initial Value Proposition Diagram for tutor.

**F. Strategy Canvas.**



**Fig 4: Strategy Canvas Diagram**

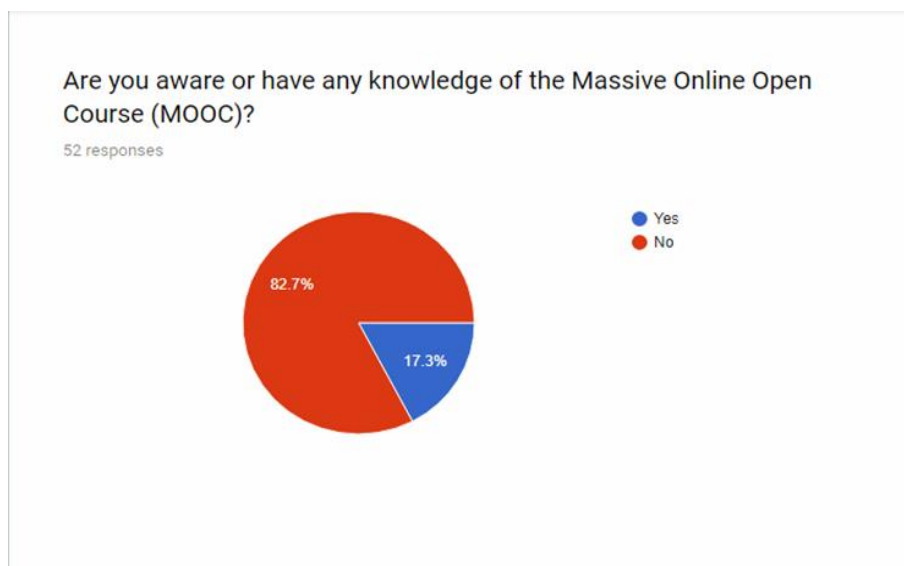
For the strategy canvas, ATSYS can be compared with the application Genext Students that are also focussing on online education.

For ATSYS to be able to compete in the market, a new, improved and fresh methodology needed to be applied to have the advantage. For now, ATSYS are targeted to the primary and secondary students in Malaysia.

First, what is the NEEDS of the students (also tutor) throughout Malaysia?. Majority of students often doesn't have time to understand certain subject due to limitation of time in school. The simplicity of ATSYS system can solve this problem. As long as there is internet connection, ATSYS can be run in Android and iOS operating system, or either in a website whether throughout personal smartphone or personal computer.

**G. Validation of Initial Business Model.**

We have conducted an online survey and interview to validate and refine our business plan. Here we have visually interpreted the online survey (conducted through Google form) and interview results. On the first question, we asked user on the realisation of the knowledge of MOOC. Almost all the respondent does not have any knowledge about MOOC.



**Fig 5: Knowledge about MOOC.**

Moreover, we also included the question on how online education will somehow replace current education system in Malaysia, and 53.9% of the 52 respondents are agree on this statement.



Do you agree that online education will somehow replace present education system in the future?

52 responses

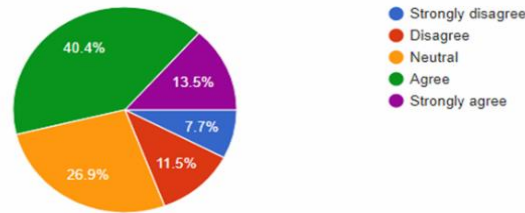


Fig 6: Can online education replace current education system?

On the last part of the question, we asked the respondent on which implementations of online education are most suitable for present generation.

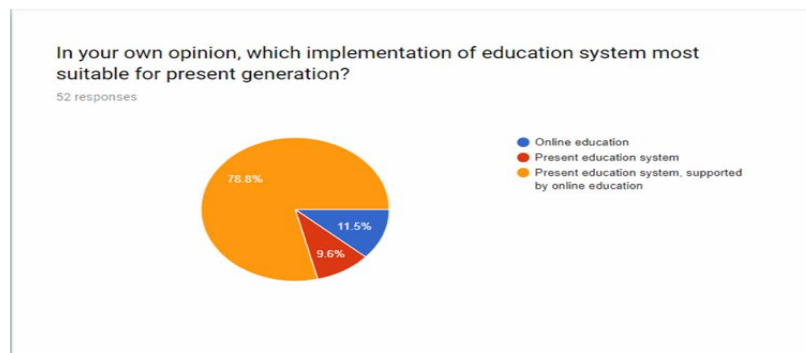


Fig 7: Implementation on the online education system.

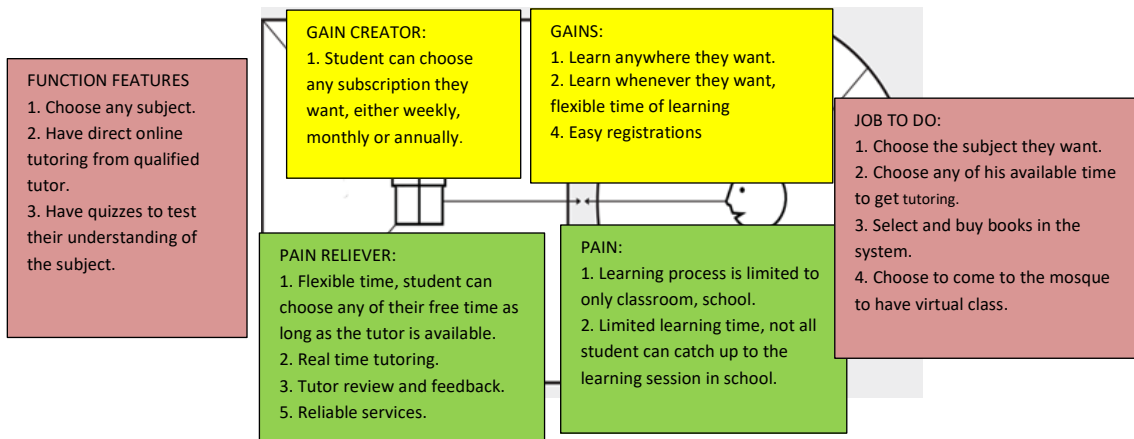
From total of 52 respondents, most respondent are agree on the partial implementation on the online education, without replacing present education system. From this survey, we can conclude that the current education system in Malaysia are good enough, and can be better with the implementation of online education. So we have a good opportunity on making this project a success.

**H. Conceptual solution.**

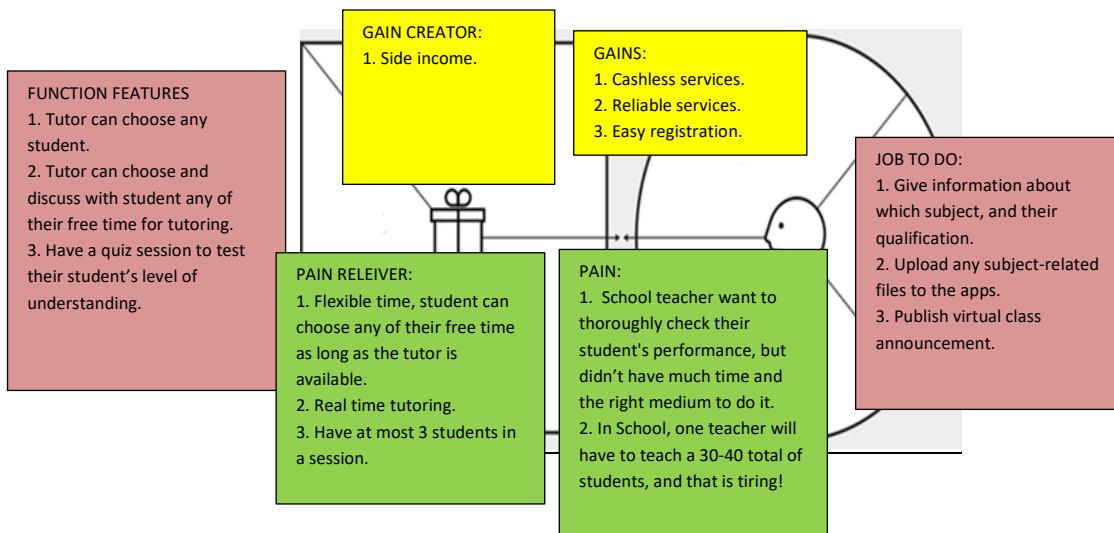
Based on the results of our online surveys and interviews, we have come out with an enhanced Business Model (see figure 8,9,10,11).

<p><b>KEY PARTNERS</b></p> <ul style="list-style-type: none"> <li>Qualified tutor.</li> <li>Investor.</li> <li>School.</li> <li>Book publisher.</li> <li>Volunteers.</li> </ul>	<p><b>KEY ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>Hiring tutor.</li> <li>Managing payment.</li> <li>Customer support.</li> <li>Advertising.</li> <li>Receiving request from volunteer.</li> </ul>	<p><b>VALUE PROPOSITION</b></p> <p>USER:</p> <ul style="list-style-type: none"> <li>Easy to learn.</li> <li>User can learn anywhere and anytime they wants.</li> <li>User can see their progress of learning.</li> </ul> <p>TUTOR:</p> <ul style="list-style-type: none"> <li>Additional income.</li> <li>Tutor can easily get their payment.</li> </ul> <p>SCHOOL:</p> <ul style="list-style-type: none"> <li>The system can be easily implemented as academic school program.</li> </ul>	<p><b>CUSTOMER RELATIONSHIP</b></p> <ul style="list-style-type: none"> <li>Social media.</li> <li>Customer service.</li> <li>Review, rating and feedback system.</li> <li>Questions with certain level of difficulty.</li> </ul>	<p><b>CUSTOMER SEGMENT</b></p> <p>USER (UPSR AND SPM):</p> <ul style="list-style-type: none"> <li>Those who want one-on-one tutoring.</li> </ul> <p>TUTOR:</p> <ul style="list-style-type: none"> <li>Those who have qualification.</li> </ul> <p>ORGANIZATION:</p> <ul style="list-style-type: none"> <li>A group of academican who wants to use ATSYS service.</li> </ul> <p>VOLUNTEERS:</p> <ul style="list-style-type: none"> <li>Those who wants to share examples and question regarding a subject.</li> </ul>
<p><b>COST OF STRUCTURE</b></p> <ul style="list-style-type: none"> <li>Education infrastructure.</li> <li>Marketing activities.</li> <li>Technology infrastructure.</li> <li>Development of system.</li> </ul>		<p><b>REVENUE STREAMS</b></p> <ul style="list-style-type: none"> <li>Students will pay to get online tutoring.</li> <li>Tutor will be paid if they accept at least one student.</li> <li>Organization will pay per session/program.</li> </ul>		

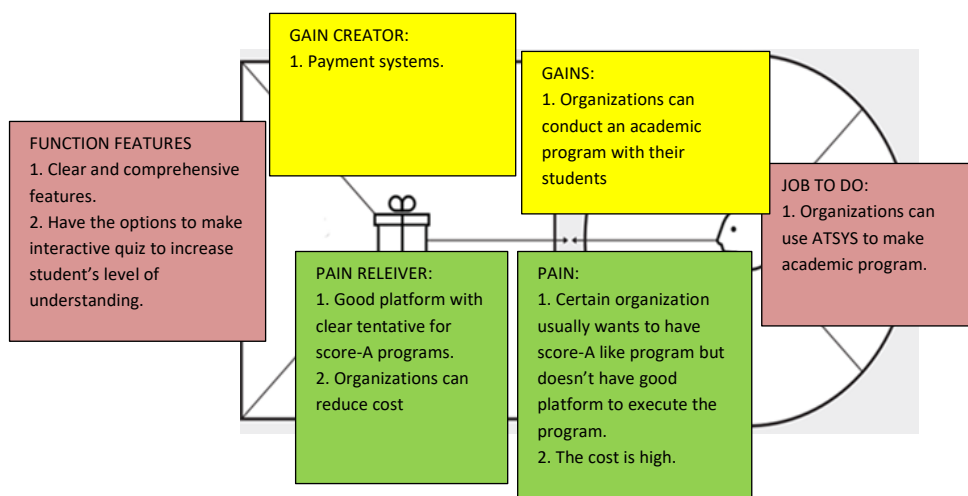
Fig 8: Enhanced BMC.



**Fig 9: Enhanced Value Proposition Diagram for student**



**Fig 10: Enhanced Value Proposition Diagram for tutor.**



**Fig 11: Enhanced Value Proposition Diagram for Organization.**



### VIII. SUMMARY AND FUTURE WORK

In conclusion, this conceptual solution will give benefits to society especially in having a better implementation of education in primary and secondary school level. ATSYS, a conceptual enhanced business model that will provide better education system by using the medium of internet. Ever since the introduction of MOOC in 2016 [19], the intuitive system of ATSYS are hoped to take online education to the next level, thus making Malaysia great again. Referring to the translation of surah Al-Mujadila verse 11, "...Allah will raise those who have believed among you and those who were given knowledge, by degrees. And Allah is Acquainted with what you do". In future works, we are planning to develop business plan for this application to be fully deploy and commercialize.

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#### **AUTHORS'S PROFILE:**

**First Author** – Amir Faris Marzuki, Bachelor of Computer Science, Kulliyah of Information and Communication Technology, International Islamic University Malaysia, [afnieq94@gmail.com](mailto:afnieq94@gmail.com)

**Second Author** – Mohammad Iqbal Hakim Ramle, Bachelor of Science Computer, Kulliyah of Information and Communication Technology, International Islamic University Malaysia, [iqbalhakimramle@gmail.com](mailto:iqbalhakimramle@gmail.com)

**Correspondence Author** – Abdul Rahman Ahmad Dahlan, [arad@iium.edu.my](mailto:arad@iium.edu.my), 019-2202032