

# E-Business Analysis of Garut University (UNIGA) Using the Business Model Canvas

Maghfirah<sup>1</sup>, Dini Turipanam Alamanda<sup>2</sup>, Adhi Prasetyo<sup>3</sup>, Fajar Prabowo<sup>4</sup>, Abdullah Ramdhani<sup>5</sup>

<sup>1</sup>Business Management of Telecommunication and Information, Telkom Economics and Business School, Telkom University, Indonesia

<sup>2</sup>Garut University, Indonesia

**Abstract:** The purpose of this study was to make a map of e-business implementation at Garut University (UNIGA) by using business model canvas, to evaluate this implementation we used SWOT analysis and the importance of performance analysis (IPA) matrix. This study was a qualitative research that had three phases. The first was preliminary phase, the second was evaluation phase, and the last was validation phase. As a result, UNIGA still needs a lot of improvement to go on the value proposition "ICT Based Educational Institution". From nine existing blocks of Business Model Canvas, seven blocks should be improved, namely key activity, key partner, channel, customer relationship, customer segments, cost structure, and revenue stream. SWOT analysis showed that all the attributes of strength and weakness are in "keep up the good work" quadrant where the average respondent considered that the implementation of e-business at UNIGA have a good performance and could be applied at UNIGA.

**Keywords:** E-business; Business Model Canvas; SWOT; IPA Matrix, UNIGA

## 1. Introduction

Information and Communication Technology has given a significant effect on the industry and market in 2013. One of the research institutions, marketsearch.com, viewed that the traditionally run economy is moving towards the use of technology. The transformation of value in this cooperate is used to increase the efficiency which is aimed to distribute the value to the customers. [1].

In educational institutions, ICT is used to improve the quality of education so that in the future ICT will be able to give improvement to to education sector. ICT has given a positive change to more than 100 million children at school age in developing country. [2].

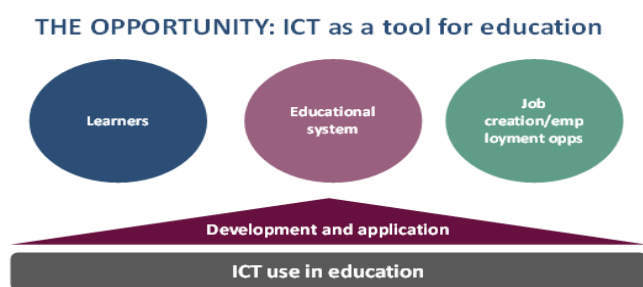


Figure 1: ICT as a tool for education

Garut University is one of the universities applying ICT principles through the DIKTI award amounted 500 million rupiah which is granted in 2006 to improve the ICT infrastructure in UNIGA. By implementing this, University of Garut were able to create the new proportion of value to be "ICT based Educational Institution". In its implementation, ICT in UNIGA has been used to facilitate the connectivity between the university and the students, as well as the lecturer and staff. In fact, ICT in this university is in still in development stage and it needs the optimalization and evaluation.

Garut University considered that there is supposed to be a research on the ICT implementation. This is done in order to make the implementation cover all of its business aspect - educational business- which is at the beginning done conventionally and now expected to transform into electronic based business (e-business) by doing a potrait of business model from the current e- business implementation of UNIGA.

Business Model Canvas (BMC) is a tool to map a business with its nine building blocks that is able to give the corporate a clarity on what its key activities, key resources, main partners, customers, its proportion of values, the way it relates to the customers, the financing structure and the revenue source of the business. Business model canvas cannot only be used for portraying the current business model but also used for suggesting a new business model plan.

To be able to recommend a new business model that can improve the effectiveness of e-business implementation in UNIGA, a tool is needed to evaluate the former business model using the SWOT analysis. SWOT analysis is a tool of evaluation which is used to detect the internal and external environment of the cooperate. It is also used to maximize the strength and the opportunity owned by the cooperate which is finally expected to minimize the existing weaknesses and threats.

This research is aimed to map the e-business Garut University of using the business model canvas, to evaluate the e-business of University of Garut using SWOT analysis and to recommend the new plan of business model canvas in improving the effectiveness the implementation of e-business of University of Garut.

## 2. Literature Review

E-business is a customized blend of web-based technologies designed to help business relationship with company for sell

the products and service to customers and relationship with employees [3]. Implementation of e-business can make a company transform it's model business from conventional to electronic and it can make a change with how a company get revenue, spend cost, and channel to distribute value.

A business model is a way of doing business with sustainability stresses the ambition to survive over time and create a successful, perhaps even profitability, entity in the long run [4]. There is so many tools to help a company can capture the fact of the model to doing business.

Business Model Canvas (BMC) is a common language to describe, visualize, assessing, and changing business models [5]. There are nine basic building blocks that show how a company generates cash. The nine building blocks are customer segments, value proposition, channel, customer relationship, revenue stream, key activity, key partner, key resource, cost structure.

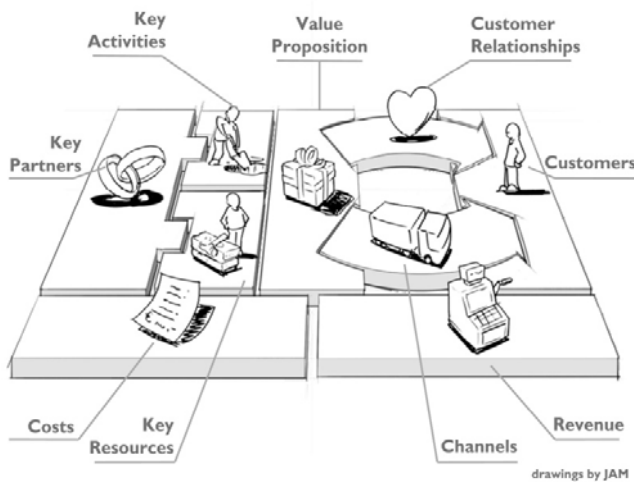


Figure 2: Business Model Canvas

To develop business model canvas, company can use an additional tool to evaluate potraits current business model use the SWOT analysis [6]. With combine BMC and the SWOT analysis, company can get a new business to improve the effectifity for the business.

3. Methodology

This research is a qualitative in forms of study case. This research used the non probability sampling technique with purposive sampling method to decide the resource person for the interview as well as snowball sampling method to decide the respondents for questionnaire purpose. To conduct the data analysis, this research used the business model canvas, SWOT analysis and Importance Performance Analysis Matrix.

This study used the business model canvas as a tool for mapping the condition of e-business implementation in UNIGA (BMC frame 1), as well as propose the new business model to implementation e-business in UNIGA (BMC frame 2). While, the SWOT analysis is used to evaluation BMC frame 1 and help to make an innovation for BMC frame 2.

For get a result from this research, there are three phases that will be solved. The phases are preliminary phase, evaluation phase, and validation phase. To make a validation of the data, this research used triangulation technique.

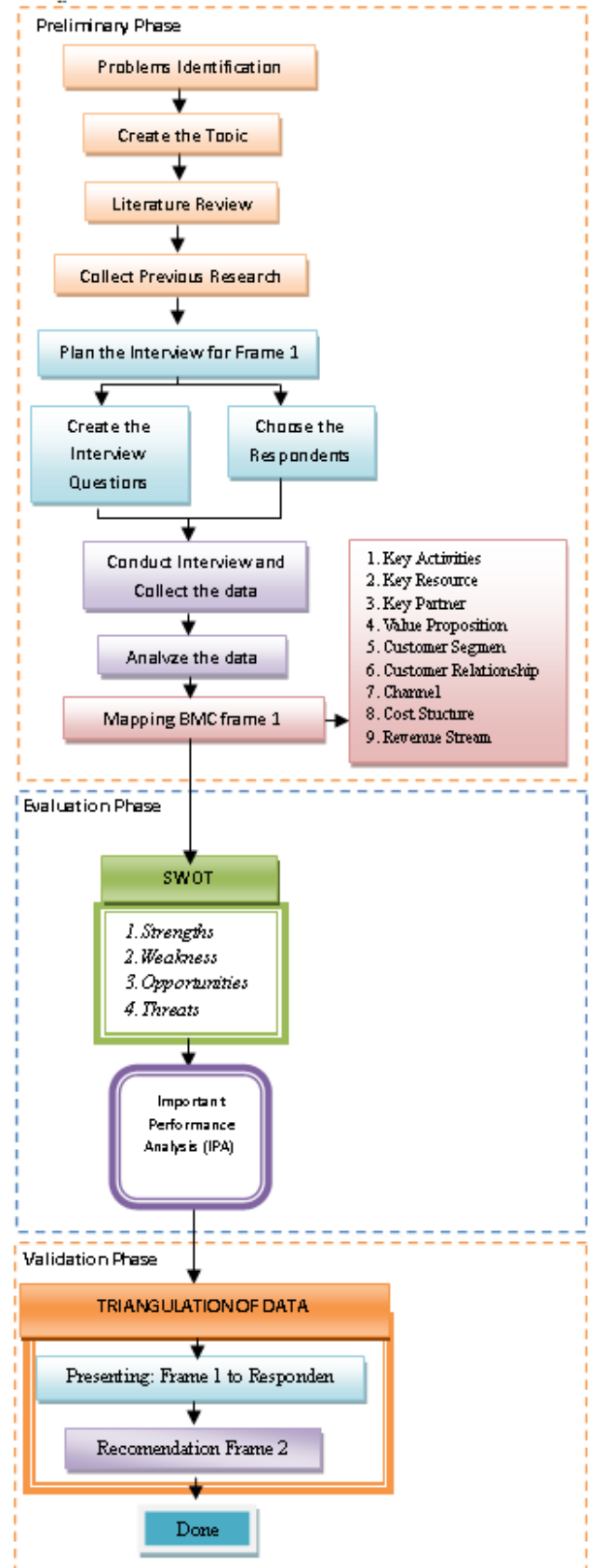


Figure 3: Qualitative Research Design

4. Result

The research has three data analysis results. Through the interview with resource person, BMC Frame 1 is gained. It depicts the real condition of e-business implementation in UNIGA. BMC frame 2 is a result of business model which will be recommended to UNIGA to increase the effectiveness of the e-business implementation. The comparison between BMC frame 1 and BMC frame 2 can be seen in the following table 1.

Table 1: Comparison Between BMC Frame 1 & BMC Frame 2

Blocks	BMC Frame 1	BMC Frame 2
<b>VALUE PROPOSITION</b>		
VAP	ICT Based Educational Institution	ICT Based Educational Institution
<b>INFRASTRUCTURE</b>		
KEA*	1. Infrastructure and Server Development 2. The improvement of internet connectivity. 3. Web upgrading 4. Information system development 5. Maintenance 6. ICT Planning	1. Infrastructure and Server Development 2. The improvement of internet connectivity. 3. Web upgrading 4. Information system development 5. Maintenance 6. ICT Planning 7. The development of security system 8. System integration planning
KER	1. IT Division 2. Infrastructure & server 3. Financial	1. <b>Error! Not a valid link.</b>
KEP*	1. DIKTI	1. <b>Error! Not a valid link.</b> 2. Provider 3. Bank
<b>CUSTOMER INTERFACE</b>		
CUS*	1. Students 2. Lecturers 3. Employees	1. Students 2. lecturers 3. Staff 4. New students 5. Partners
CUR*	1. Socialization 2. Training 3. Manual Book	1. Socialization 2. Training 3. Manual Book (E-book & Print Book)
CHA*	1. Academic Information System 2. E-library 3. Tresure Study 4. E-Journal 5. PBM Online 6. Website 7. Information Board Electronic	1. Online Academic Information System 2. E-library 3. Tresure Study 4. E-Journal 5. PBM Online 6. Website 7. Information Board Electronic
<b>COST/REVENUE</b>		
COS*	1. 60% - Preparation for server,	1. 50% - Preparation for server, infrastructure, and

	infrastructure, and information system 2. 20% - Payment for internet connectivity 3. 15% -Maintenance 4. 5% - Payment of IT Division (Salary & Training)	information system 2. 20% - Payment for internet connectivity 3. 15% -Maintenance 4. 15% - Payment of IT Division (Salary & Training)
RES*	1. students internet payment 100.000 rupiah/ year 2. Granted 500 million rupiah from DIKTI (2006) 3. Granted 3,2 billion rupiah from DIKTI (2009-2011)	1. Internet payment form students 100.000 rupiah/ year 2. Granted 500 million rupiah from DIKTI (2006) 3. Granted 3,2 billion rupiah from DIKTI (2009-2011) 4. Revenue from Profit Center 5. Revenue from the increasis of new students

Note: \*Blocks that proposed new attribute

4.1 Value Proposition

Garut University is a university holding islamic value in doing its business process. As the time goes by, educational institution is expected to adapt with the technology. Observing the phenomenon that the best high school in Garut has begun to intriduce internet and computer to its students, UNIGA as an educational insitution in Garut realized that ICT use in the university is something that must be done. The value propotion of "ICT based educational insitution" which has been developed by UNIGA since 2006 is already in line with the academia needs as the technology users. This values has also given a unique value for UNIGA as educational institution applying the e-business in Garut. By adding this value propotion, UNIGA has not only improved the service quality but also introduced UNIGA to people especially prospective students as one of notable universities.

4.2 Infrastructure

The infrastructure,that UNIGA owns to implement the e-business, such as key activites, key resources and key partners, is considered good its performance as shown in the following Figure 4. Yet, there is one attribute that has zero performance in respondent's view i.e attribute 21 in which UNIGA did not use the outsourcing in its business implementation. In fact, the infrastructure of the university has already met the standard in terms of quality (with the bandwidth implementation using quite large optical fibre). However, in terms of IT staff, the university lacks resources to handle the ICT in UNIGA which has three separate campus area. In terms of brainware, the manpower of UNIGA still needs the training and proper income to reduce the high turnover in IT division.

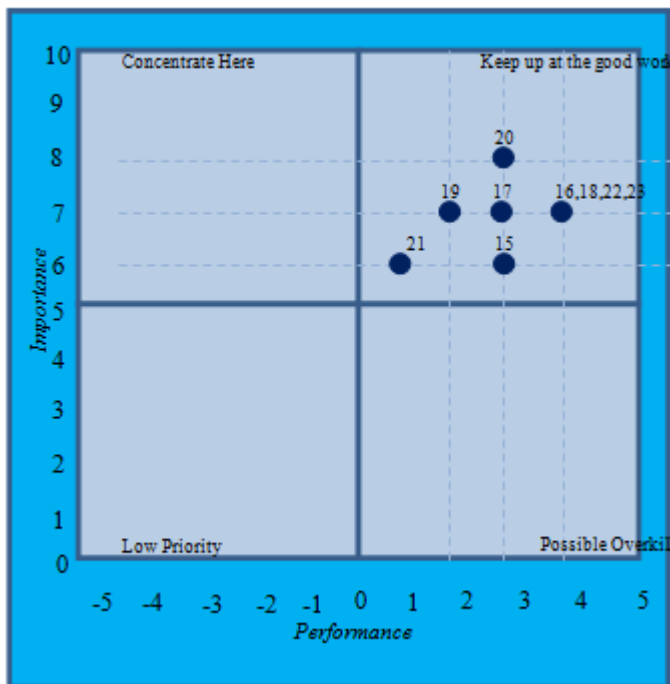


Figure 5: IPA Matrix for Infrastructure

With regard to key partners, UNIGA should not be dependent only on one partner. It should find another partner with the different aspect of partnership to help UNIGA implement the e-business. For example, if DIKTI is a partner in terms of funding, it is better for UNIGA to find the operator to help it with the infrastructure or internet connectivity. The university can also cooperate with banks regarding the electronic payment system and formulating the appropriate way to make the e-payment can be accepted by all academia. UNIGA should begin to think about the additional key activities that can give revenue by using the applied e-business and empowering the students from all of its faculties. By the existing profit center, this activity will give several benefits at the same time to UNIGA should it be done appropriately :

- a. Help UNIGA to created a greater e-business culture to all UNIGA academia
- b. The profit center will be a key activity which is able to make UNIGA revenue diversified and predicted since it comes from internal source.

**4.3 Customer Interface**

The implementation of e-business in UNIGA is originally aimed to keep up with changes, yet by the passing time this implementation is expected to facilitate the academia as the users of this technology i.e lecturers, students and staff. In the long term, UNIGA should add the partners and the prospective students as the users of this e business technology. They will also have relations with UNIGA. A good e-business is the one which is applied not only to facilitate the relations of an institution internally but also externally.

Consequently, UNIGA should improve its channels both in its system performance and its updated content. It should also improve the relations with the customers by providing a

guideline of using the ICT facility which can be accessed by its user easily. In terms of customer relationship, UNIGA has done several things in order to make the target users know how to use the e-business implementation in the campus well. Currently, UNIGA has conducted socialization to academia and given training to the staff to be responsible to existing information system. There is also a handbook to facilitate the users to operate the system without special training.

UNIGA has an opportunity to automize the relations with the e-business users. One of the ways is to create e-book (not only a print book) that can be accessed by the users anytime and anywhere they need it. This will also give an impression that UNIGA has been ICT based. As a result, it will have a more flexible relations with e-business technology users. For the channels, UNIGA basically has diverse information system which is aimed to spread its ICT value to its academia, but the implemetation is considered not maximal due to the UNIGA academic system which can not be accessed online yet. To worse the situatuon, there are some universities whose systems are not web based yet. The uniformity of information system in each faculty (by the uniformity of web based system) will make UNIGA more prepared to make all its activities online especially the academic activity so that there will be an increased quality in UNIGA e-business chanel.

**4.4 Cost/Revenue**

Currently, the proportion of cost structure in UNIGA still revolves around the infrastructure building (which spends great amount of fund), while the funding proportion for the IT sector is relatively low (below 10% from the total cost for the implementation). Yet, due to the existing infrastructure that has been established since 2006, UNIGA basically is able to increase the budget for IT dividion so that the turnover in this division can be reduced.

In implementing the e-business, UNIGA gas already known its financial capability. This can be observed from its decision in implementing e-business by doing the efficiency in its operational cost so that attribute 14 has the best performance among the other attributes.

However, UNIGA still has a weakness in its revenue flow. The revenue flow that has not been diversified in implementing the e-business shown in Figure 5 in which attribute B has zero performance according to respondents. This makes UNIGA dependant merely on revenue flow such as internet payment and grant. This revenue is is still vulnurable since the grants from DIKTI is not permanent and will end at the time decided DIKTI as a committee of the grants competition of the fund.

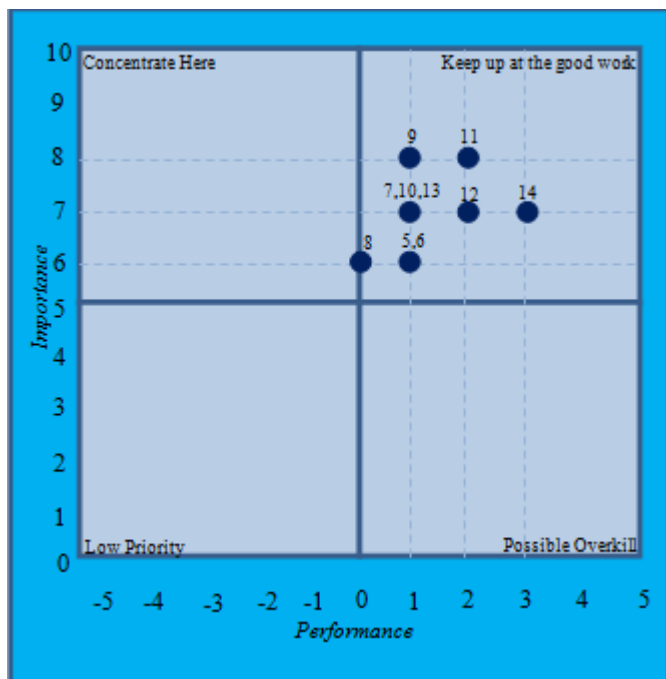


Figure 4: IPA Matrix for Cost/Revenue

UNIGA had better not to be dependant only to certain revenue flow. Besides, the greatest revenue flow is gained from external source which cannot be controlled by UNIGA. By making use of profit center funds, UNIGA will be able to predict the revenue they will get from the e-business use.

This e-business implementation has given UNIGA an increased revenue from the increasing new students who apply, and it is not realized by UNIGA. The increased students in each faculty are approximately up to 300-400 percent. Though the increased number of students is not originated from the number of online applicants, this increase is felt by UNIGA due to its new value – implementing the ICT principle.

## 5. Conclusion

- Business Model Canvas of e-business implementation in UNIGA is a business model that has been in line with the standard of business model canvas of Osterwalder dan Pigneur, in which there are nine building blocks which are related to each other from its e-business implementation flow.
- From the evaluation result, there are two attributes which have weak performance in respondent's view that is attribute number 8 in the revenue's diversification and number 21 that is in outsourcing use. This attribute is in low performance position i.e zero but with high importance level so that this attribute is in border line between quadran I and II. However, the rest of the attribute has weakness and strength evaluation (which is in quadran II) i.e "keep up with the good work". In this quadran, the average respondents considered the e-business implementation in UNIGA has basically had good performance and all of the attributes have relatively high importance in this university. This probably occurred because the repondents think that the e-business

implementation in UNIGA is already sufficiently good for an institution located in Garut Regency. Besides, the staff and the lecturers' age which range from 36 years old above. This has made the implementation of ICT become an outstanding inovation for their generation who has never found that kind of technology in Garut.

- UNIGA still requires a lot of improvements to reach the value proportion of "educational institution based on ICT" that is from nine existing building blocks, the researcher recommended that there should be a change in seven blocks.

## References

- [1] IDC, "Indonesia 2013 Top 10 ICT Predictions," marketresearch.com, Februari. 14, 2013. [Online]. Available: <http://www.marketresearch.com/IDC-v2477/Indonesia-ICT-Predictions-7363518/>. [Accessed: May. 1, 2014]
- [2] Cisse Atta, "Applying ICT to Education in Africa," nextbillion.net, September. 3, 2013. [Online]. Available: <http://www.nextbillion.net/blogpost.aspx?blogid=3497>. [Accessed: May. 1, 2014]
- [3] Derfler, Frank J, E-Business Essentials, PC Magazine, USA, 2001
- [4] Nielsen, Christian & Lund, Morten, The Basic of Business Model, Bookboon.com, 2012. [Online]. Available: <http://bookboon.com/en/the-basics-of-business-models-ebook>. [Accessed: Oktober, 20 2013]
- [5] Osterwalder, Alexander& Pigneur, Yves, Busieness Model Generation, PT Elex Media Komputindo, Jakarta, 2012.
- [6] Tim PPM Manajemen, Business Model Canvas: Penerapan di Indonesia, PPM, Jakarta, 2012.

## Author Profile



**Maghfirah** received the S.Mb degree in Business Management of Telecommunication and Information from Telkom Economics and Business School, Telkom University on April 2014.



**Dini Turipanam Alamanda** is a lecturer of Business Statistics, Mathematical Economics, and Qualitative Method for Business in faculty Economics and Business, Telkom University. She received Bachelor of Agricultural Technology from Bogor Agricultural University (IPB) and Master of Science in Management from Institut Teknologi Bandung (ITB)



**Adhi Prasetyo** is a faculty member of Telkom University. He is a student on management science of graduate school- Indonesia University of Education. His research provide includes e-commerce and social CRM



**Fajar S.A. Prabowo** currently is a lecturer of Marketing Management and Creative Thinking in Business (CTiB) at School of Economic and Business of Telkom University. He earned his Bachelor of Economic from Sekolah Tinggi Ilmu Ekonomi (STIE) Tridharma and his Master of Business Administration from Institut Teknologi Bandung (ITB). Prior to joining Telkom

University, he gained some practical experiences as a strategic planner at simulator industry and as an operation officer at one major retailer in Indonesia. As an academician, his research interest encompasses business model innovation and creative business and marketing practices.



**Abdullah Ramdhani** is a lecturer at Faculty of social and political science, Garut University. He has a master of Public Administration from Pasundan University.